SAMSUNG

GSM TELEPHONE

GT-I9300

SERVICE Manual

GSM TELEPHONE

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2. Specification

2-1. GSM General Specification

	GSM850	EGSM 900	DCS1800	PCS1900	WCDMA 2100	WCDMA 1900	WCDMA 900	WCMDA 850
Freq. Band[MHz] Uplink/ Downlink	824~849 869~894	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990	1922~1977 2112~2167	1852~1907 1932~1987	880~915 925~960	824~849 869~894
ARFCN range	128~251	0~124 & 975~1023	512~885	512~810	UL: 9612~9888 DL: 10562~10838	UL: 9262~9538 DL: 9662~9938	UL: 2712~2863 DL: 2937~3088	UL: 4132~4233 DL: 4357~4458
Tx/Rx spacing	45MHz	45MHz	95MHz	80MHz	190MHz	80MHz	45MHz	45MHz
Mod. Bit rate/ Bit Period	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us	3.84Mcps	3.84Mcps	3.84Mcps	3.84Mcps
Time Slot Period/ Frame Period	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	FrameLength: 10ms Slotlength: 0.667ms	FrameLength: 10ms Slotlength: 0.667ms	FrameLength: 10ms Slotlength: 0.667ms	FrameLength: 10ms Slotlength: 0.667ms
Modulation	0.3GMSK	0.3GMSK	0.3GMSK	0.3GMSK	QPSKHQPSK	QPSKHQPSK	QPSKHQPSK	QPSKHQPSK
MS Power	33dBm~5dBm	33dBm~5dBm	30dBm~0dBm	30dBm~0dBm	24dBm~ -50dBm	24dBm~ -50dBm	24dBm~ -50dBm	24dBm~ -50dBm
Power Class	5pcl ~ 19pcl	5pcl ~ 19pcl	0pcl ~ 15pcl	0pcl ~ 15pcl	3(max+24dBm)	3(max+24dBm)	3(max+24dBm)	3(max+24dBm)
Sensitivity	-102dBm	-102dBm	-100dBm	-100dBm	-106.7dBm	-106.7dBm	-106.7dBm	-106.7dBm
TDMA Mux	8	8	8	8	8	8	8	8
Cell Radius	35Km	35Km	2Km	2Km	2Km	2Km	2Km	2Km

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2-2. GSM Tx Power Class

TX Power control level	GSM850
5	33±2 dBm
6	31±2 dBm
7	29±2 dBm
8	27±2 dBm
9	25±2 dBm
10	23±2 dBm
11	21±2 dBm
12	19±2 dBm
13	17±2 dBm
14	15±2 dBm
15	13±2 dBm
16	11±3 dBm
17	9±3dBm
18	7±3 dBm
19	5±3 dBm

TX Power control level	EGSM900
5	33±2 dBm
6	31±2 dBm
7	29±2 dBm
8	27±2 dBm
9	25±2 dBm
10	23±2 dBm
11	21±2 dBm
12	19±2 dBm
13	17±2 dBm
14	15±2 dBm
15	13±2 dBm
16	11±3 dBm
17	9±3dBm
18	7±3 dBm
19	5±3 dBm

TX Power control level	DCS1800
0	30±3 dBm
1	28±3 dBm
2	26±3 dBm
3	24±3 dBm
4	22±3 dBm
5	20±3 dBm
6	18±3 dBm
7	16±3 dBm
8	14±3 dBm
9	12±4 dBm
10	10±4 dBm
11	8±4 dBm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

TX Power control level	PCS1900
0	30±3 dBm
1	28±3 dBm
2	26±3 dBm
3	24±3 dBm
4	22±3 dBm
5	20±3 dBm
6	18±3 dBm
7	16±3 dBm
8	14±3 dBm
9	12±4 dBm
10	10±4 dBm
11	8±4 dBm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

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3. Operation Instruction and Installation

Main Function

- Android OS: ICS
- HSPA+ 21Mbps / HSUPA 5.76Mbps
- 8MP AF with LED Flash
- 4.8 Super AMOLED MIPI (C-Type)
- A-GPS / BT v4.0 USB v2.0 / WiFi (802.11 a/b/g/n)
- Recording definition: 1080p / Playback at 1080p resolution
- Sensors: Acceleration, Electromagnetic, Gyro, RGB, Proximity, Barometer
- Additional :
  - 1.4GHz Quad Core CPU

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6. Level 6 Repair

6-1. S/W installation

6-1-1. Required items in order to install S/W

- Installation program: Downloader Program (**Odin3 v3.04.exe**)
- GT-I9300 Mobile Phone
- Data Cable
- JIG BOX (GH99-36900B)
- **RF TEST CABLE (GH39-00985A)**
- **OCTA LCD (GH97-13630A)**
- JIG Cable (GH81-10631A)
- Adapter (GH99-38251A)
- Serial Cable
- Mobile device specific S/W: Binary files

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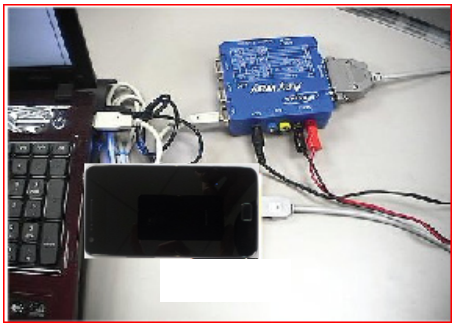
Connect ANYWAY JIG BOX
with JIG CABLE (Phone to JIG)
or PC to Phone Using Data Cable



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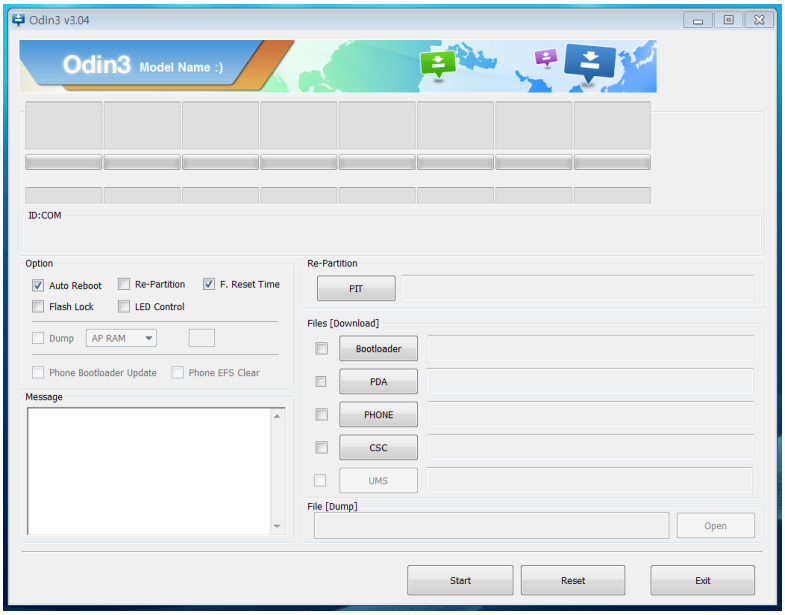
6-1-2. S/W Installation Program (Downloader program)

■ Open up the S/W Installation Program by executing the **"Odin3 v3.04.exe"**

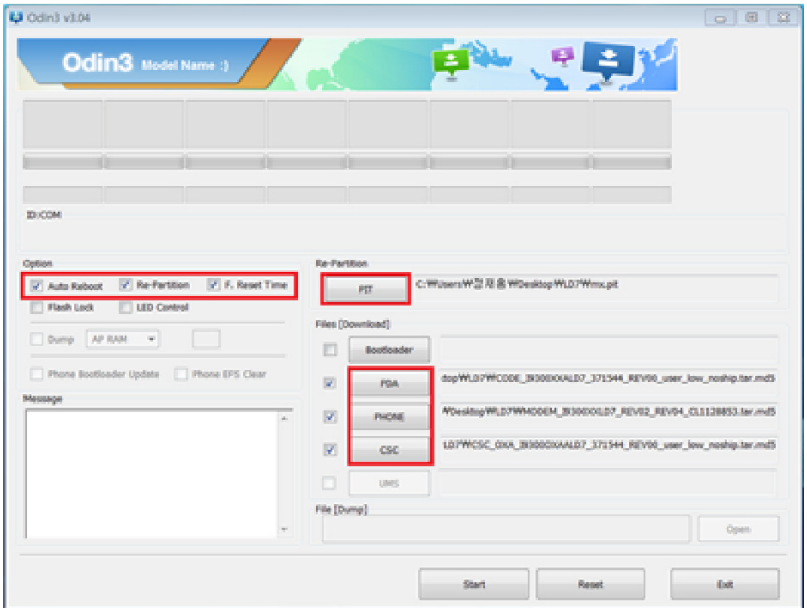


1. Enable the check mark by click on the following options,

- Check Re-Partition, Auto Reboot, and F. Reset Time
- Check PIT
- Check PDA, PHONE, and CSC Files

2. Enter into Download Mode

- Enter into Download Mode by pressing Volume Down button, and ON/OFF Button simultaneously. And then, press Volume UP button in Warning Page to enter the Download Mode.



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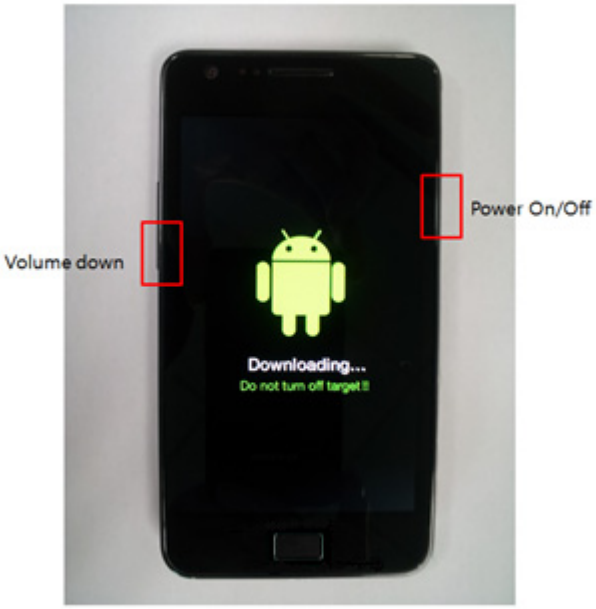
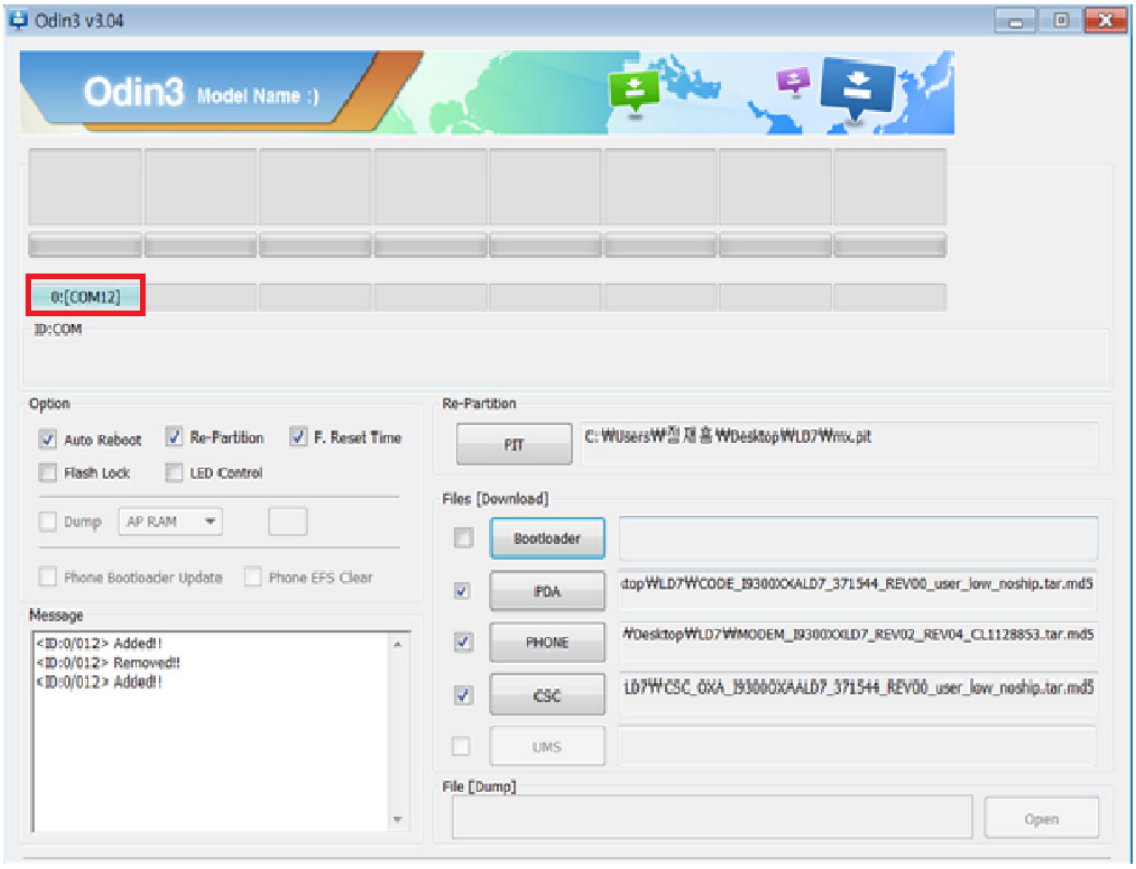


3. Connect the device to PC via Data Cable.
Make sure that the one of communication port [ID:COM] box is highlighted in light blue. The device is now connected with the PC and ready to download the binary file into the device.



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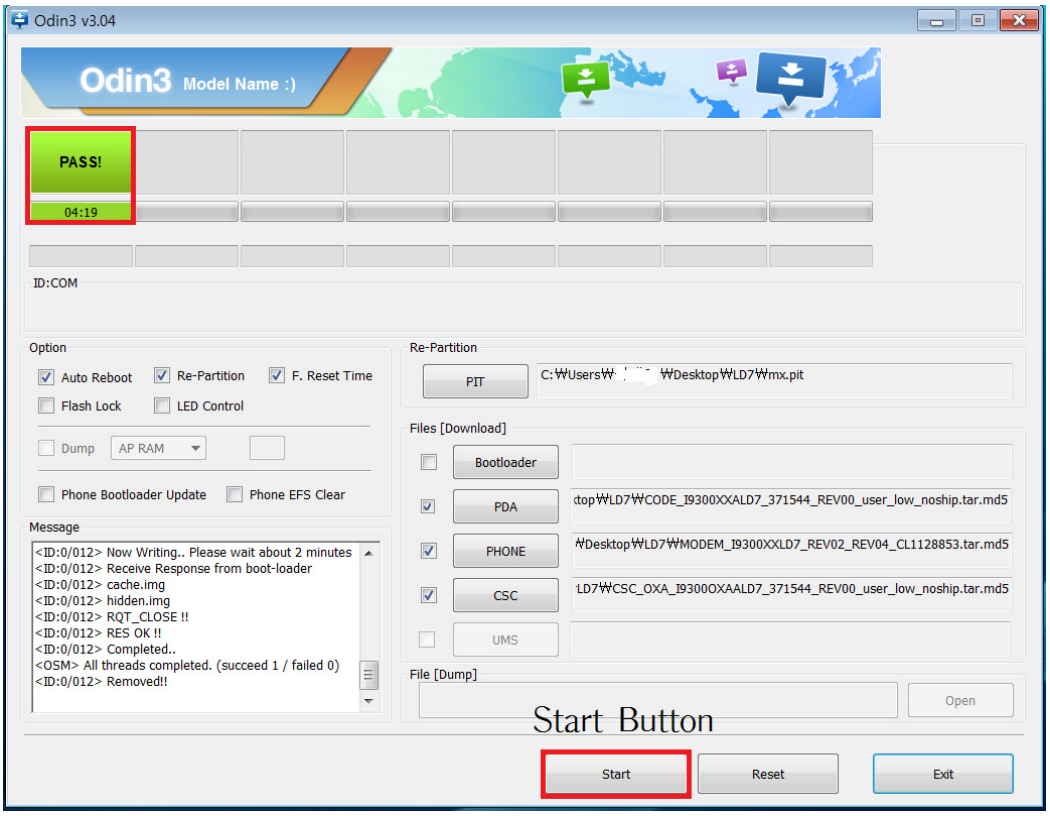
4. Start downloading binary file into the device by clicking Start Button on the screen. the green colored "PASS!" sign will appear on the upper-left box if the binary file has been successfully downloaded into the device.



5. Disconnect the device from the Data cable.

6. Once the device boots up, you can check the version of the binary file or name by pressing the following code in sequence;
***#1234#**

You can perform full reset by pressing the following code in sequence;
***2767*3855#**

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9. Reference Abbreviate

Reference Abbreviate

—AAC: AdvancedAudioCoding.
—AVC: AdvancedVideoCoding.
—BER: BitErrorRate
—BPSK: BinaryPhaseShiftKeying
—CA: ConditionalAccess
—CDM: CodeDivisionMultiplexing
—C/I: CarriertoInterference
—DMB: DigitalMultimediaBroadcasting
—두: EuropeanStandard
—ES: ElementaryStream
—ETSI: EuropeanTelecommunicationsStandardsInstitute
—MPEG: MovingPictureExpertsGroup
—PN: Pseudo-randomNoise
—PS: PilotSymbol
—QPSK: QuadraturePhaseShiftKeying
—RS: Reed-Solomon
—SI: ServiceInformation
—TDM: TimeDivisionMultiplexing
—TS: TransportStream

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1. Safety Precautions

1-1. Repair Precaution

Before attempting any repair or detailed tuning, shield the device from RF noise or static electricity discharges.

Use only demagnetized tools that are specifically designed for small electronic repairs, as most electronic parts are sensitive to electromagnetic forces.

Use only high quality screwdrivers when servicing products. Low quality screwdrivers can easily damage the heads of screws.

Use only conductor wire of the properly gauge and insulation for low resistance, because of the low margin of error of most testing equipment.
We recommend 22-gauge twisted copper wire.

Hand-soldering is not recommended, because printed circuit boards (PCBs) can be easily damaged, even with relatively low heat. Never use a soldering iron with a power rating of more than 100 watts and use only lead-free solder with a melting point below 250°C (482°F).

Prior to disassembling the battery charger for repair, ensure that the AC power is disconnected. Always use the replacement parts that are registered in the SEC system. Third-party replac ement parts may not function properly.

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1-2. ESD(Electrostatically Sensitive Devices) Precaution

Many semiconductors and ESDs in electronic devices are particularly sensitive to static discha rge and can be easily damaged by it. We recommend protecting these components with cond uctive anti-static bags when you store or transport them.

Always use an anti-static strap or wristband and remove electrostatic buildup or dissipate static electricity from your body before repairing ESDs.

Ensure that soldering irons have AC adapter with ground wires and that the ground wires are properly connected.

Use only desoldering tools with plastic tips to prevent static discharge.

Properly shield the work environment from accidental electrostatic discharge before opening packages containing ESDs.

The potential for static electricity discharge may be increased in low humidity environments, such as air-conditioned rooms. Increase the airflow to the working area to decrease the chance of accidental static electricity discharges.

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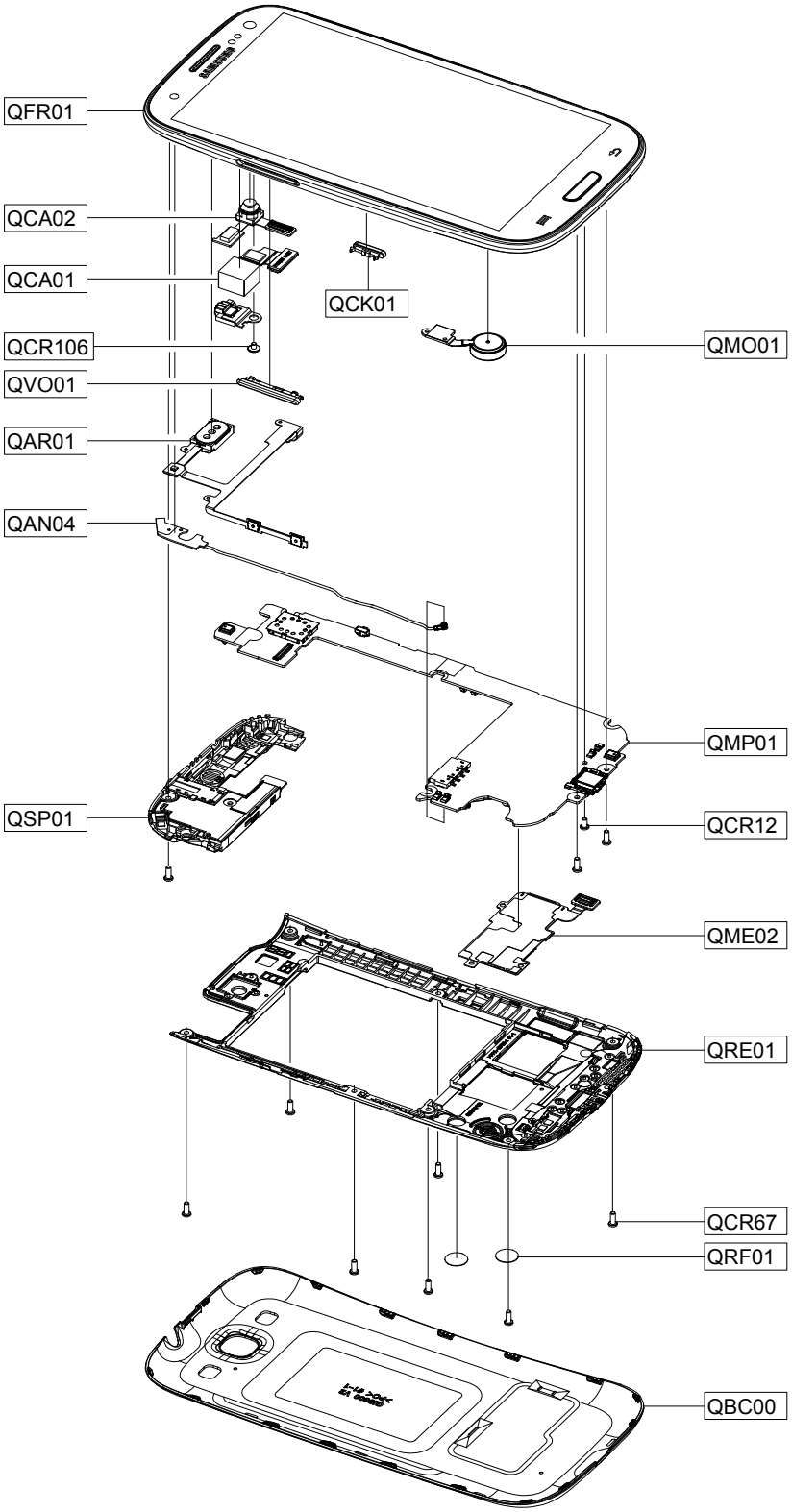
4. Exploded View and Parts List

4-1. Cellular phone Exploded View



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5. MAIN Electrical Parts List

Design LOC	SEC CODE	Description
D500	0403-001688	BZX884-C5V6
D700	0403-001832	RCLAMP0521P
ZD500	0406-001267	PESD5V0L5UF
ZD300	0406-001327	RCLAMP3654P.TCT
U713	0406-001369	PESD24VS1UL
ZD502	0406-001390	PESD5V0F1BL
ZD600	0406-001413	RD1301B
ZD604,ZD606,ZD607,ZD700	0406-001459	UCLAMP0541Z
ZD601,ZD602,ZD603,ZD605,ZD608	0406-001506	PTVS26VS1UR
ZD701	0406-001526	EMD5T2R
U501	0504-001176	PMR280UN
Q200,Q201	0505-002384	SPFCW04301BLS0D0T0
LED500	0601-003079	TC7SG32AFS
U302	0801-003024	74AUP1T34
U704	0801-003449	SC54412ACA-A030
UCP400	0902-002909	XM0860SH-DL0668TMP
U107	1001-001536	STG5223QTR
U505	1001-001546	FSA2259UMX
U608	1001-001635	SKY13397-388LF
U105	1001-001733	AN30259A
U301	1003-002337	FXMA2102UMX
U709	1003-002469	KMVTU000LM-B503
UME300	1108-000472	SFMG2S0D001
U200	1201-003378	SKY77604-31
U106	1201-003406	NCX2200GM
U714	1202-001120	RP103K281D-TR
U600,U603,U701,U702,U703	1203-004819	MIC5365-3.3YMT
U715	1203-005512	RF6590
U108	1203-006801	RP154L006A-E2
U710	1203-006874	LM3242
U104	1203-006985	AAT2146MIJS-0.6-T1
U707	1203-007142	AAT1290AIWO-T1
U509	1203-007256	STOD13CMTPUR
U706	1203-007269	MAX77693EWQ+T
U506	1203-007321	MAX77686EWE+T
U500	1203-007322	MAX14607EWL+T

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Design LOC	SEC CODE	Description
U502	1203-007323	MAX14607EWL+T
U504	1203-007323	RP114K121D-TR
U712	1203-007324	ES305B
U604	1204-003328	S5C73M3X01-Y040
U711	1204-003364	SI4705-D50-GM
U203	1204-003365	TPS22922YFPR
U401	1205-003611	SII9244BO
U708	1205-004233	BCM47511IUB2G
U201	1205-004396	WM1811AECS
U605	1205-004509	PN65NET1/C3
U207	1205-004510	PMB9811C
UCP300	1205-004511	PMB5712A2
U102	1205-004515	AK8975C
U204	1209-002041	LSM330DLC
U205	1209-002149	LPS331AP
U206	1209-002150	NCP03XH223E05RL
V100	1404-001726	NCP03WB473J05RL
TH300,TH400,TH401	1404-001728	LXES15AAA1-117
V600,V601	1405-001346	RC1005J101CS
R219	2007-000138	RC1005J102CS
R456,R457	2007-000140	RC1005J222CS
R214	2007-000141	RC1005J272CS
R222	2007-000142	RC1005J472CS
R722,R723	2007-000143	RC1005F1003CS
R315	2007-007107	RC1005F393CS
R338	2007-007134	RC1005F472CS
R471	2007-007136	MCR01MZP5F2002
R475,R476	2007-007312	RK73H1ETP1503F
R716	2007-007489	MCR01MZP5F2400
R447,R448,R473,R474	2007-007517	RK73H1ETP5602F
R719	2007-007538	M5534204B10E0R
R450,R464,R512,R513,R727,R730	2007-007741	RC1005F0100CS
R703	2007-007798	RK73H1ETP1603F
R529	2007-007875	RC-1005F105CS
R408	2007-007942	ERJ1GEJ101C
R337,R521,R528	2007-008045	RC0603J121CS

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Design LOC	SEC CODE	Description
R109	2007-008046	ERJ1GENJ201X
R200,R731,R732	2007-008048	MCR006YZPJ202
R224	2007-008049	ERJ1GENJ472X
R324,R432,R433,R460,R461, R472,R515,R706,R725	2007-008052	ERJ1GENJ104X
R202,R406,R407,R413,R414, R415,R416,R465,R470,R511, R530,R531,R611,R616,R622, R745,R753	2007-008055	RC1005F364CS
R526	2007-008403	ERJ1GEJ102C
R466,R467	2007-008419	RMC-1/20-330JPA
R330,R632,R744	2007-008420	RMC1/20152JPA
R443,R444,R453,R454	2007-008478	RMC1/20473JPA
R205,R206,R207,R208,R209, R325,R326,R328,R329,R428	2007-008483	ERJ1GEJ204C
R501,R505,R518	2007-008486	ERJ1GEJ103C
R313,R327,R400,R402,R410, R411,R412,R427,R429,R469, R481,R534,R612,R721,R726	2007-008516	MCR006MZPJ0100
R314	2007-008531	MCR006YZPJ222
R310,R311,R331,R332,R333, R335,R336,R426,R451,R452, R733,R734,R739,R740	2007-008588	ERJ1GEJ750C
R110,R111	2007-008686	ERJ1GEJ2R2C
R633,R634,R741,R742	2007-008774	RMC1/20K333JTP
R748	2007-008786	MCR006YZPJ153
R504	2007-008798	MCR006MZPF2002
R445,R446	2007-008800	RC0603J510CS
R115	2007-008806	MCR006YZPJ105
R220,R225,R502,R503,R626, R717,R718,R746,R747	2007-009084	RC0603J240CS
R708,R709	2007-009115	MCR006YZPJ474
R342	2007-009155	MCR006YZPF1003
R417,R418,R420,R421,R449,R738	2007-009157	MCR006MZPF1503
R728,R729	2007-009158	MCR006YZPJ513
R302,R303,R304,R305,R306,R307, R308,R309,R312	2007-009171	MCR006YZPF1001
R618	2007-009212	MCR006MZPJ334
R533	2007-009314	RC0603J4R7CS

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Design LOC	SEC CODE	Description
R301	2007-009315	ERJ1GEF222C
R430,R431,R434,R435,R436,R437, R439,R440,R441,R442,R458,R459, R462,R463	2007-009408	MCR006YZPF1000
R104,R105	2007-009801	MCR01MZP5F44R2
R468	2007-009964	MCR006YZPF1201
R620	2007-009969	RC1005F4021CS
R319	2007-010233	GRP1555C1H101J
C101,C786	2203-000233	GRP155R71C103K
C216	2203-000254	GRP1555C1H100D
C241,C242	2203-000278	GRP1555C1H150J
C636	2203-000386	GRP155R71H102K
L208	2203-000438	GRP1555C1H1R0C
L103	2203-000466	GRP155R71H222K
C450	2203-000489	GRP155R71H271KD01E
C255	2203-000654	04025C332KAT2A
C451,C453	2203-000714	GRP155R71H392KA01E
C585	2203-000725	GRP155R71E682KA01E
C572	2203-001101	GRP1555C1H820JD01E
C571,C640	2203-001239	GRP155R71H331KD01E
C257	2203-002443	CL05CR75BB5NNNC
L102	2203-002677	C1005Y5V1C104ZT
C240,C246,C268	2203-002709	GRP1555C1H2R7BZ01E
C228	2203-005446	GRP0335C1E330JD01E
C135,C137,C157,C163,C209, C349,L105	2203-005682	GRP0335C1E8R0DD01E
C203,C205	2203-005683	GRP0335C1E220JD01E
C200,C269,C270,C505,C506, C767,C768,C769,C770	2203-005725	GRM0335C1E560J
C112,C197,C198,C260,C261, C613,C634	2203-005726	CL03C120JA3GNNC
C582,C587	2203-005727	CL03C150JAGC
C115,C138,C614,C632,C635	2203-005729	GRM0335C1E180J
C426,C427,C654,C655,C656	2203-005731	GRM0335C1E820JD01D
C254,C259,C663,C664	2203-005734	GRP0335C1E101JD01E
C116,C117,C136,C208,C211, C219,L104	2203-005736	CL03C010CA3GNNC
C124	2203-005777	ECJZEC1E0R5B

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Design LOC	SEC CODE	Description
C118,C140	2203-005789	GRP033R71C102KD01E
C131,C207,C253,C744	2203-005806	GRM155R71A104K
C300,C454	2203-006048	GRM33X7R471K16PT
C665,C666	2203-006121	GRM155R60J224KE01E
C302	2203-006190	GRP033R70J103KA01E
C142,C305,C307,C568,C569, C608,C611,C622	2203-006194	CV105X5R105K25AT
C563,C578	2203-006348	GRP033R70J472KA01
C128	2203-006379	GRM155R60J105KE19D
C503,C597,C601,C621,C700, C701,C714,C715,C716,C717	2203-006399	GRM33X5R104K6.3
C108,C109,C125,C132,C133, C143,C146,C178,C179,C180, C181,C182,C187,C188,C189, C206,C247,C262,C303,C304, C308,C309,C311,C312,C316, C319,C320,C322,C324,C325, C326,C327,C330,C331,C333, C334,C335,C338,C339,C340, C347,C400,C402,C405,C409, C415,C444,C445,C449,C500, C501,C504,C576,C610,C616, C651,C703,C718,C719,C721, C722,C724,C726,C728,C740, C751,C752	2203-006423	GRM0335C1E470JD01D
C196	2203-006556	CV05X5R105K10AH
C171,C172,C235,C236,C580, C581	2203-006562	GRM033R71E331KA01D
C416,C418,C422	2203-006642	GRM033R60J473KE19D
C183,C184,C185,C190	2203-006647	GRM033R61A222K
C738	2203-006668	GRM0335C1E4R7C
C153,C154	2203-006707	GRM033R70J682K
C130,C134	2203-006815	CV105X5R475K10AT
C119,C176,C177	2203-006824	CL03A104KP3NNNC
C147,C148,C220,C237,C239, C351,C573,C739	2203-006839	CV05X5R474K10AH
C245	2203-006844	GRM155R60J225ME15D

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Design LOC	SEC CODE	Description
C173,C186,C201,C202,C204, C212,C213,C357,C401,C408, C414,C431,C435,C442,C443, C446,C507,C508,C509,C510, C511,C517,C526,C527,C534, C541,C545,C546,C547,C553, C554,C646,C647,C648,C720, C723,C725,C727,C737,C743, C746,C757,C760	2203-006872	CL03B103KP3NNNC
C107,C110,C579	2203-006979	CL21A106KOCLRNC
C729,C733,C765	2203-007133	CV03X5R224K06AH
C174,C310,C315,C317,C321, C323,C328,C332,C336,C337, C341,C348,C502,C592	2203-007210	CL10A226MQ8NRNE
C436,C556,C557,C558,C559, C560,C574	2203-007240	CL21A226MPCLRNC
C342,C344	2203-007269	CL10A106KP8NNNC
C114,C160	2203-007270	CL05A225KP5NSNC
C126,C702	2203-007271	CV105X5R106M10AT
C588	2203-007279	CV05X5R475M06AH
C591	2203-007317	CV05X5R475M06AH
C170,C175,C222,C403,C406, C410,C439,C519,C520,C521, C522,C523,C524,C551,C552, C555,C561,C564,C609,C617, C618,C624,C638	2203-007317	CV05X5R225M10AH
C788,C790	2203-007342	CL05A106MR5NRNC
C238,C250,C428,C432	2203-007385	CL05A475KP5NRNC
C129,C144,C158,C301,C708, C736	2203-007393	CL03A105MQ3CSNH
C243,C249,C251,C329,C350, C356,C404,C407,C411,C412, C413,C417,C419,C420,C421, C424,C425,C429,C430,C433, C434,C437,C438,C440,C441, C518,C525,C528,C530,C531, C532,C533,C535,C536,C538, C539,C540,C542,C543,C544, C548,C549,C550,C575,C577, C583,C595,C600,C604,C605, C606,C607,C612,C615,C619, C623,C626,C628,C631,C644, C652,C662,C706,C709,C710, C711,C750,C753,C754,C763, C764	2203-007449	CL03A105MQ3CSNH

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Design LOC	SEC CODE	Description
C529,C537	2203-007449	CL05A105KA5NQNC
C565,C586	2203-007456	CL05A106MQ5NUNC
C263,C313,C314,C318,C512, C513,C514,C515,C516,C735	2203-007474	CL10A474KB8NNNC
C707,C785	2203-007687	CV05X5R475M10AH
C218,C306	2203-007775	CL05A106MP5NUNC
C566,C567,C593,C620,C730, C731,C732	2203-007795	CL03A105MP3NSNC
C145,C447,C448,C594,C633, C637,C643,C645,C649,C650, C705,C712,C713,C734,C758, C761,C766	2203-007796	CL03A224KP3NNNC
C742,C748,C756,C762	2203-008095	CL03A104KA3NNNC
C248,C252,C741,C745,C747, C749,C755,C759	2203-008097	CL03A103KA3NNNC
C244	2203-008243	TLJN226M010R3800
TA600,TA700	2404-001516	F981A476MSAFZH
TA500	2404-001652	CPH3225A/PAS3225P
BAT500	2409-001243	LK1608-100K-T
L511	2703-001231	LL1005-FH1N0S
C191	2703-001749	CIH05T82NJNC
L514,L515,L517,L518	2703-002309	LQW15AN15NH00D
L128,L131	2703-002596	LLV0603-F6N8J
L116	2703-002649	HK0603-4N7S-T
C120	2703-002858	LLV0603-F8N2J
L120	2703-002907	CIH03T12NJNC
L118	2703-002951	LQG15HSR27J02D
L270	2703-003476	CIG21L4R7MNE
L708	2703-003685	CIG21L1R0MNE
L500,L507,L508,L509	2703-003687	MIPSZ2012D4R7-SS
L127,L129,L130	2703-003755	LQM2HPN3R3MGCL
L302,L303	2703-003869	1239AS-H-4R7N
L702,L707	2703-003897	CML0306-2N7-BNH
C221,L203	2703-003908	CML0306-5N6-JNH
L121	2703-003915	LQP03TN47NJ02D
L109,L117,L122,L124	2703-004000	LQP03TN2N2B02D
C210	2703-004012	LQP03TN1N8B02D
L108,L115	2703-004013	LQP03TN1N2B02D

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Design LOC	SEC CODE	Description
C127,C149,C150	2703-004014	LQP03TN1N0B02D
C161,C164	2703-004034	LQP03TN3N3B02D
L126,L133	2703-004035	LQP03TN12NJ02D
L112	2703-004036	CIG21LR47MNE
L111	2703-004185	LQW15CN70NJ00
L608	2703-004197	CIG22E1R0MNE
L501,L502,L503,L504,L505, L506,L510,L512,L513	2703-004297	LQM18PN2R5ND0D
L205	2703-004338	CIL10NR33JNC
L209,L210	2703-004344	FA-128-37.4MHZ
OSC201	2801-005051	TFX-03
OSC500	2801-005157	SQBD02400D2JCG
OSC400	2801-005163	8Z26000021
OSC100	2801-005166	XRCGB27M120F3M10R0
OSC202	2802-001287	KT2016A26000ACW18TAG
OSC200	2805-001098	ICMEF112P900MFR
F700	2901-001625	ICMEF112P500MFR
F702	2901-001634	SAFEA1G58KA0F00
F200	2904-001988	SAWEN942MCA0F00
F101	2904-002020	B40251EY2045G
F100	2910-000125	SKY18106-455LF
U103	2911-000191	SPU0410HR5H
MIC600,MIC602	3003-001136	BLM15AG121SN1D
L305,L611	3301-001534	BLM15AG601SN1
L201	3301-001659	BLM15AG102SN1D
L700,L701,L704,L705,L709	3301-001729	BLM15EG121SN1D
L703,L706	3301-001789	BLM15HD102SN1
L206,L211	3301-001812	BLM15HD182SN1D
L601,L602,L609,L610,L616, R628	3301-001885	BLM03AG601SN1D
L200	3301-001895	BLM15AG100SN1D
L600	3301-001929	BLM21PG220SN1D
L300,L301	3301-001956	BLM18KG601SN1
L516	3301-002037	BLM18HE102SN1D
L119	3301-002062	MMZ1005A182ET
L603	3301-002065	BLM15AX102SN1D

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Design LOC	SEC CODE	Description
L605,L607	3301-002078	BLM15AX601SN1D
L614,L615	3301-002085	BLM15PX121SN1
L132	3301-002122	LS12K2-T
SW600	3404-001303	20369-001E
RFS101	3705-001448	KMS-560-002-BEF
RFS100,RFS102	3705-001731	14-5802-044-002-829
HDC702	3711-006843	14-5802-016-002-829
HDC300	3711-006923	AXE622124AW1
HEA700	3711-007071	AXE634124AW1
HDC701	3711-007295	202-03060-00440
BTC500	3711-007841	14-5804-016-000-829+
HDC600	3711-008151	14-5804-010-000-829+
HDC601	3711-008157	HJ-BCT-02Y
ANT500,ANT501	3712-001373	HJ-ICT-06Y
ANT102,ANT103,ANT200, ANT203,CON306,KEY500, KEY501	3712-001375	HJ-ICT-03Y
MOT500,MOT501	3712-001378	2108171-3
IFC700	3722-003512	LBEH5DKVMC-534TEMP
U202	4709-002092	SUS-C1-TOP
CN300	GH61-00827A	SUS-I9300-TOP
CN301	GH61-00926A	PTC3121N
SC300,SC301,SC302,SC304,SC305, SC306,SC307,SC309,SC310,SC311, SC312,SC313,SC314,SC315	GH70-07467A	SHIELDCAN-GTI9300
SC700	GH98-23256A	AXE420124AW1
HDC301	NEW-056767	1

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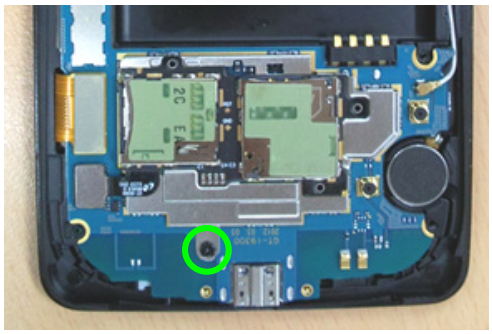
7. Level 2 Repair

7-1. Disassembly and Assembly Instructions

1 	2
1) Disassembly Screw 10points.	1) It dismantles an REAR side part.
3 	4 
1) It dismantles a speaker connector and Module.	1) Unscrew 1points.

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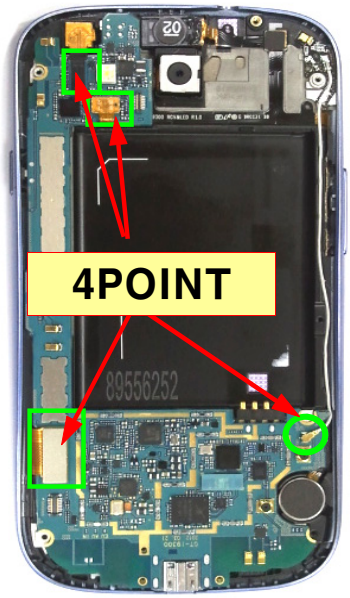
5	6
	
1) Detach the Con to con and then Disassemble PBA	1) It separates PBA.

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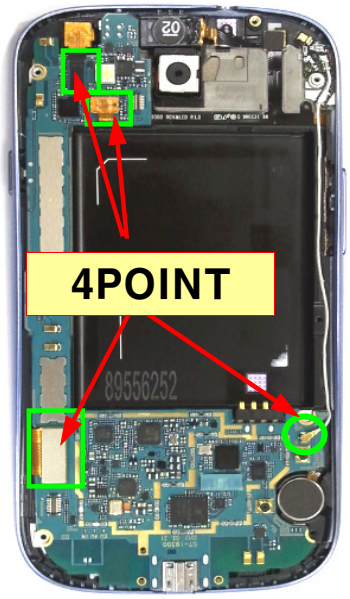
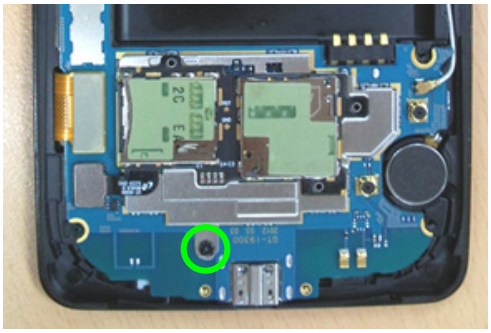
7-1-2. Assembly

1 	2
1) Stand all FPCB (LCD, Earjack, Sub Cam, Ant Cable)	1) PBA on the front case
3 	4 Torque : 1.0 ~ 1.2 Kgf·cm / Size : 1.4 * 2.5 
1) Conect all FPCB(LCD, Earjack, Sub Cam, Ant Cable)	1) It assembles screw 1point.

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5 	6
1) It assembles SPEAKER.	1)It assembles REAR. 2)It assembles Screw 10 Point.

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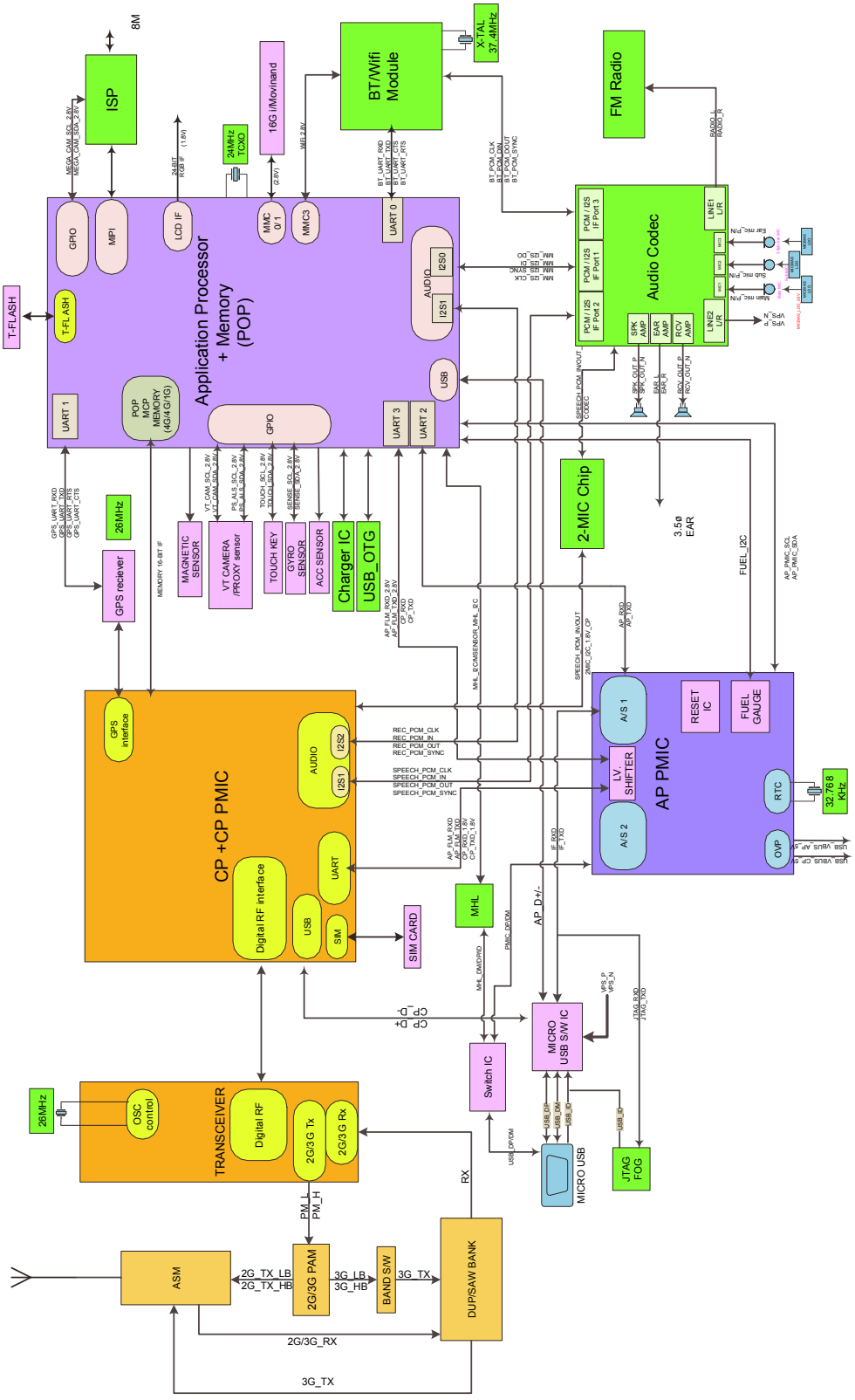
8. Level 3 Repair

8-1. Block Diagram



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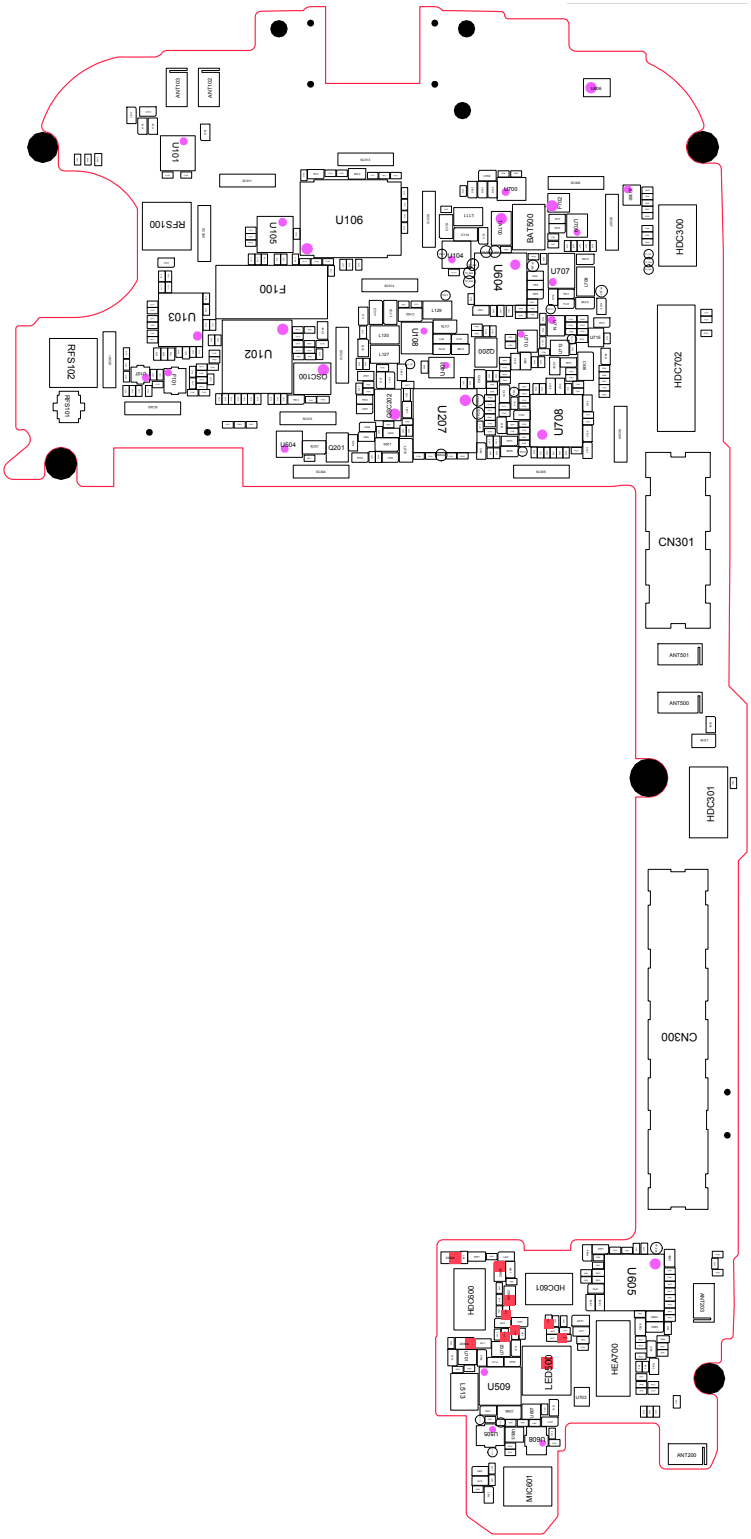
8-2. PCB Diagrams

8-2-1. Top



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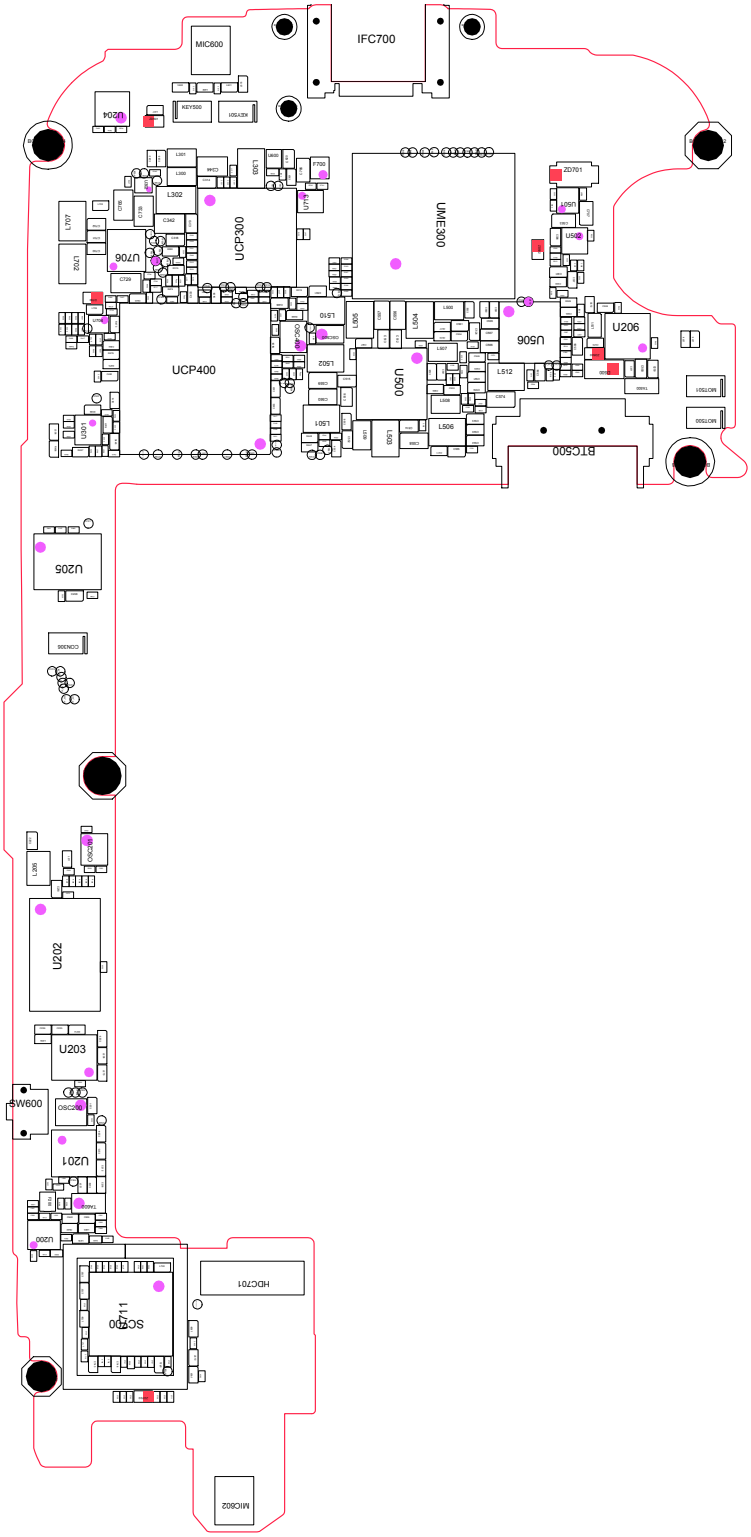
8-2-2. Bottom



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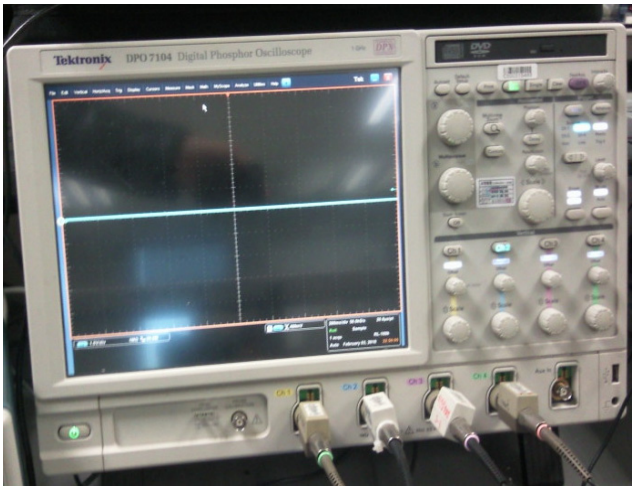
8-3. Flow Chart of Troubleshooting

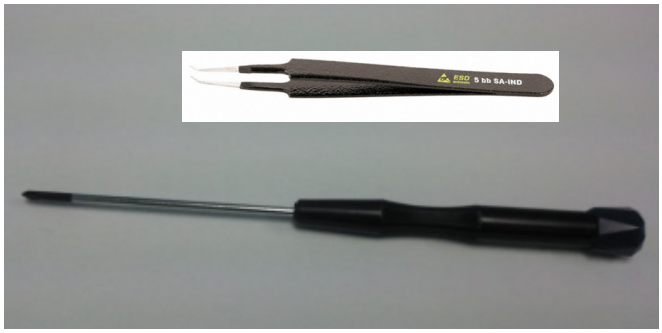
Equipments



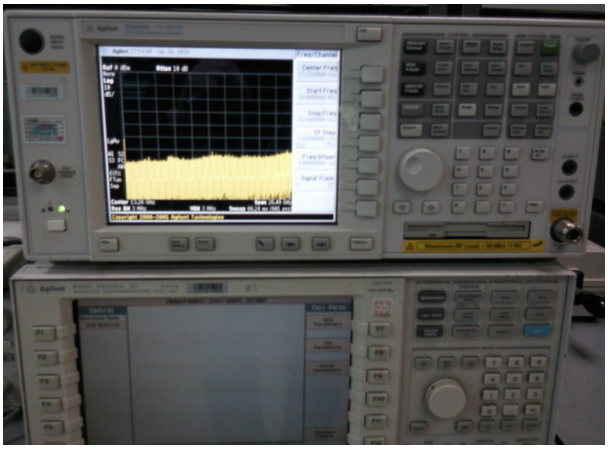
↑ Oscilloscope

↑ Digital Multimeter

↑ Power Supply



↑ + driver, ESD Safe Tweezer



↑ 8960 & Spectrum Analyzer

↑ Soldering iron

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8-3-1. Power On

Cell-phone can`t power on.
Check the Battery Voltage.
Is it more than 3.4V?
No
Charging the battery by TA.
If its voltage level is extremely low(under 3.0V),
Change the battery.
Yes
Power-on the phone and check
the power-on sound
or motor biration.
Sound or Biration is ok?
Yes
Change the MEA FRONT-OCTA LCD ASSY
No
Check the SW600
(soldering crack, open, etc)
Abnormal
Change the SW600(Power-key)
And retry to the power-on operation.
Yes
Check the U500 output voltage
(C561 = 1.0V, C559 = 1.1V,
C558 = 1.0V, C556 = 1.0V)
No
If the output voltage is not satisfied with normal condition, Change the U501.
※ Each voltage will be changed from 0.9V to 1.3V during booting.
Yes
Check the U500 output signal
(AP_PS_HOLD(TP) > 1.8V)
No
If the output voltage is not satisfied with normal. condition, Change the U500.
※ Each voltage level has ±10% margin.
Yes
Check the Clock OSC500(C505)
Is that frequency 32Khz?
No
Change the OSC500.
If OSC400 does not still work, Change the U501
This problem is internal oscillator of U501.
※ Test condition (Oscilloscope setting)
: 20.0us.div (time division)
Yes
check the initial operation
Yes
END

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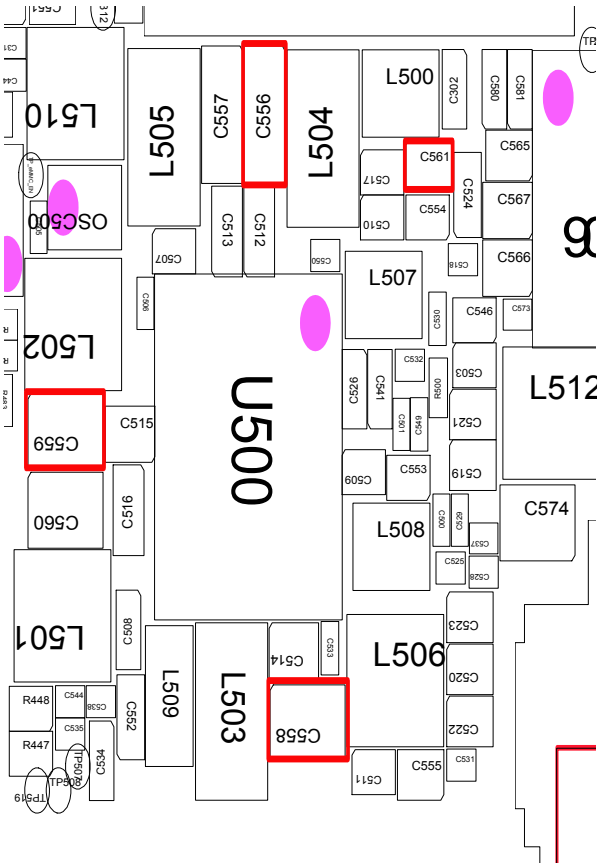

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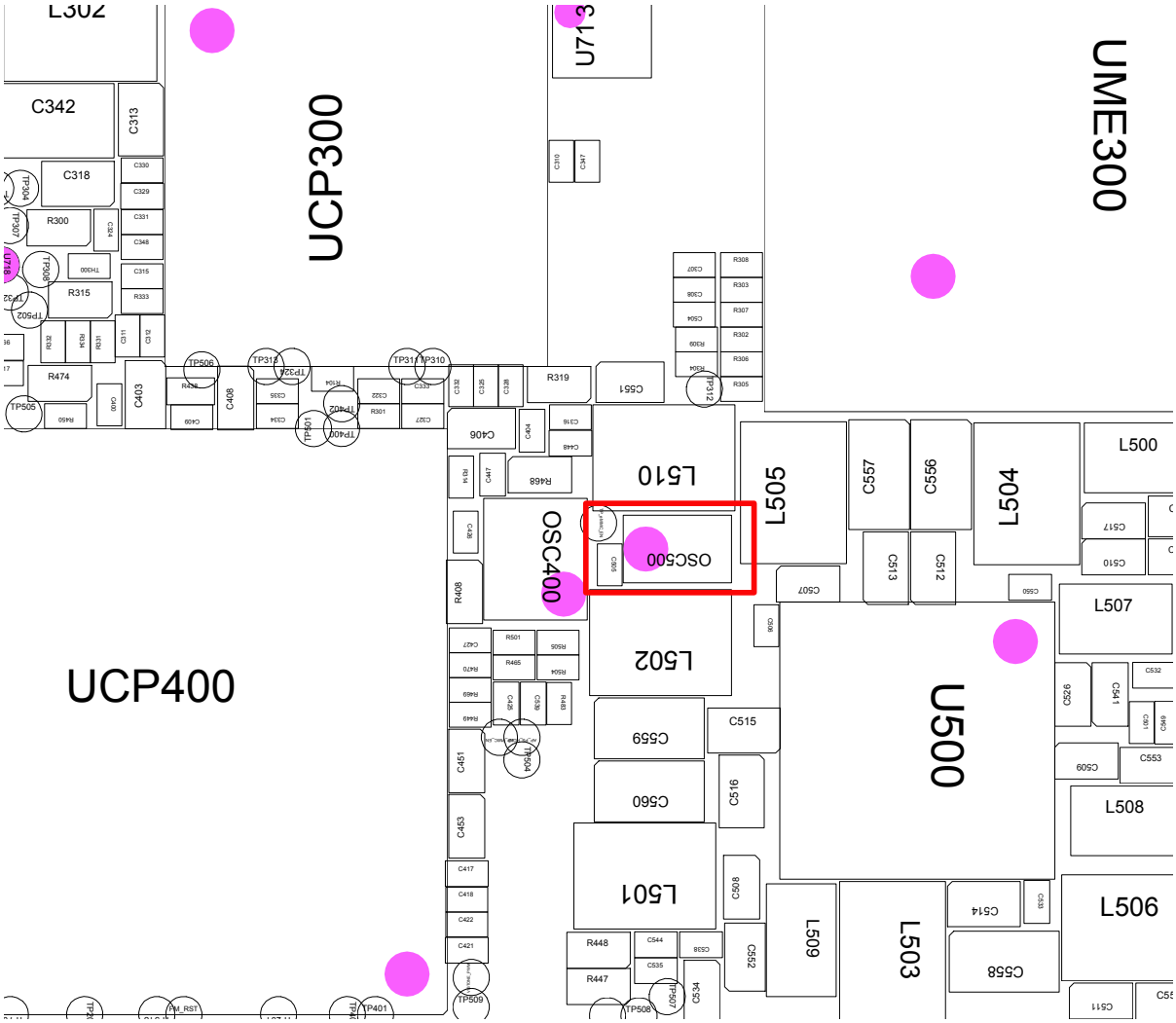

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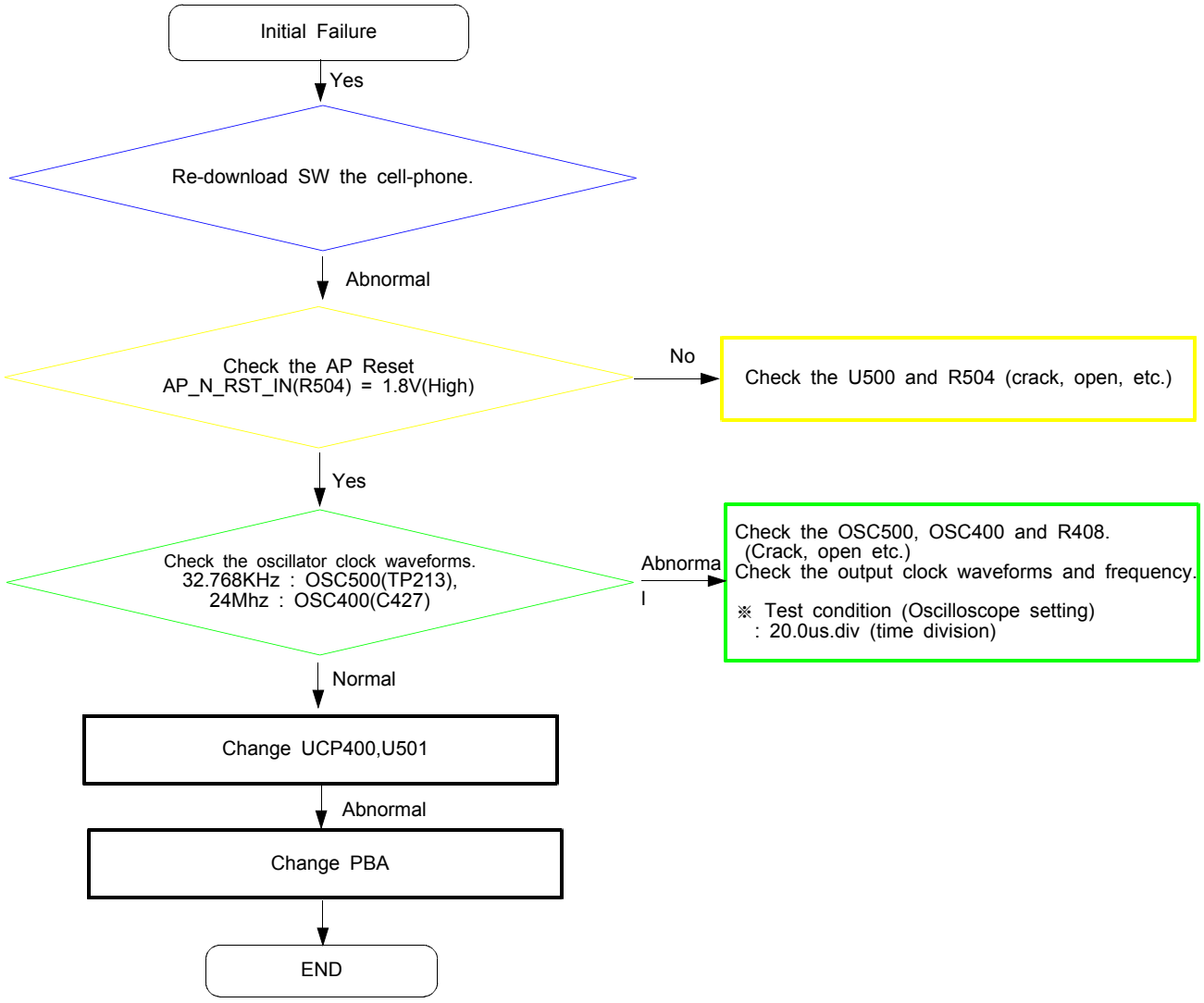
8-3-2. Initial



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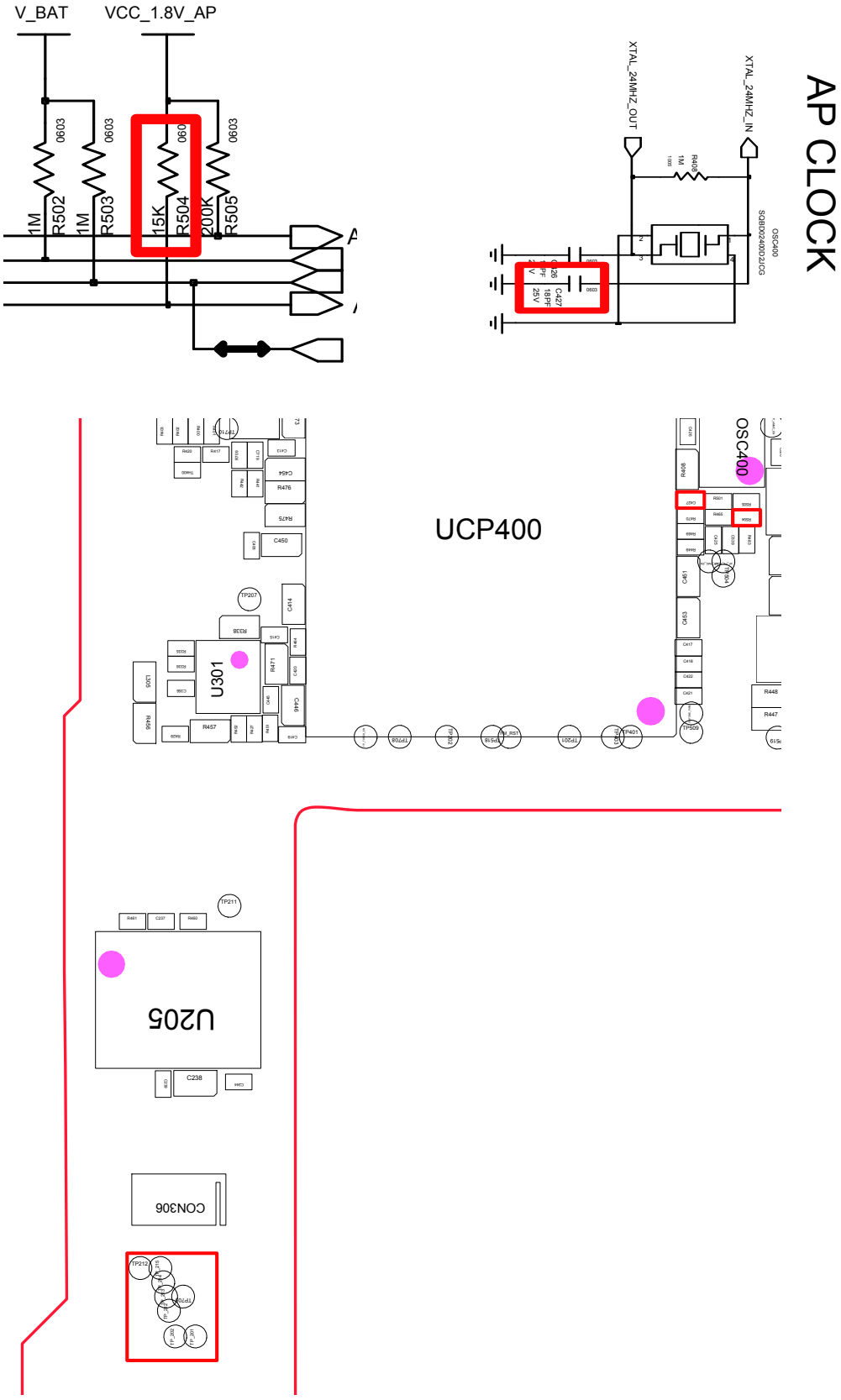

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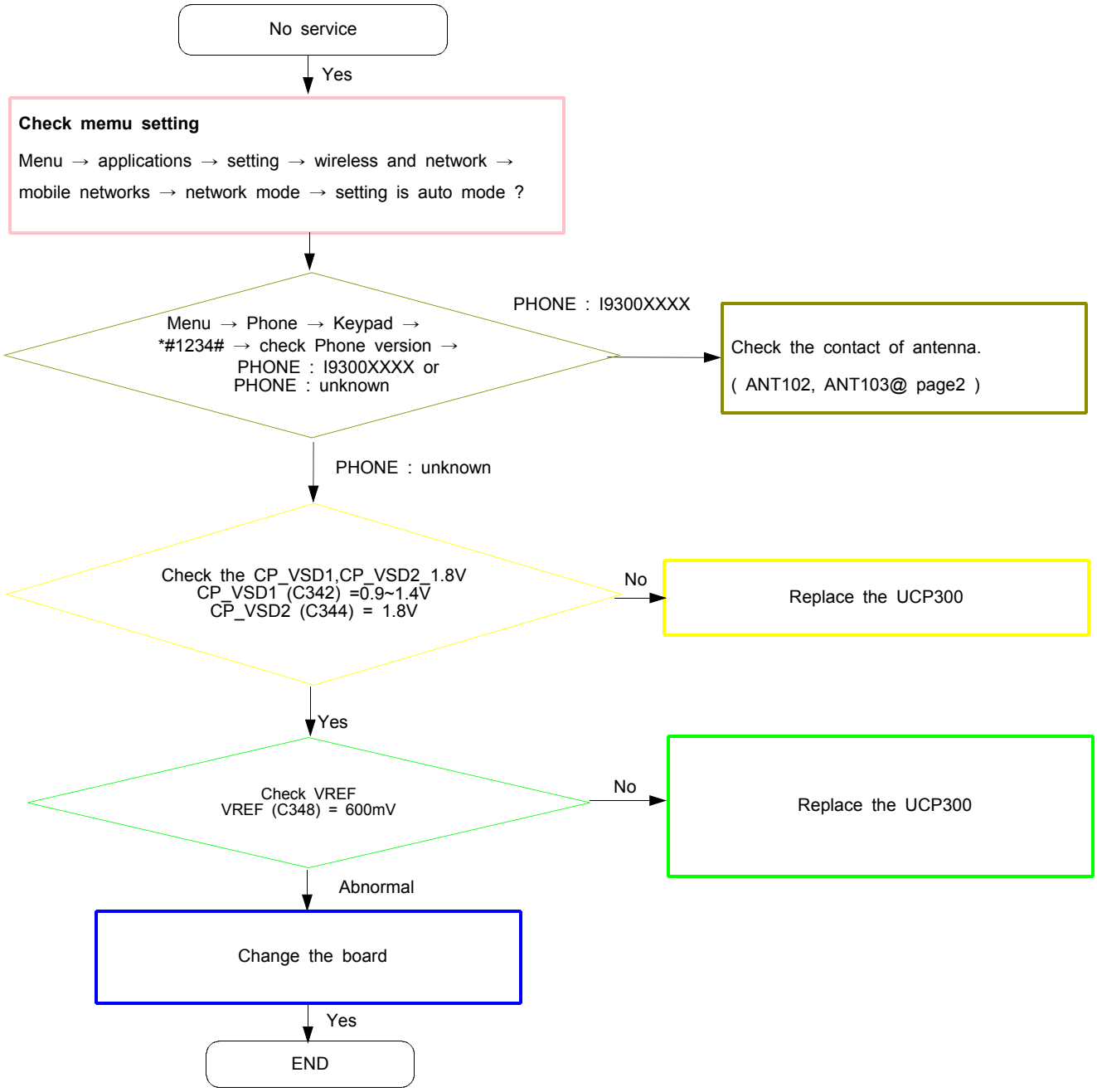
8-3-3. No Service


No service
Yes
Check memu setting
Menu → applications → setting → wireless and network → mobile networks → network mode → setting is auto mode ?
Menu → Phone → Keypad → *#1234# → check Phone version → PHONE : I9300XXXX or PHONE : unknown
PHONE : I9300XXXX
Check the contact of antenna.
(ANT102, ANT103@ page2)
PHONE : unknown
Check the CP_VSD1,CP_VSD2_1.8V
CP_VSD1 (C342) =0.9~1.4V
CP_VSD2 (C344) = 1.8V
No
Replace the UCP300
Yes
Check VREF
VREF (C348) = 600mV
No
Replace the UCP300
Abnormal
Change the board
Yes
END

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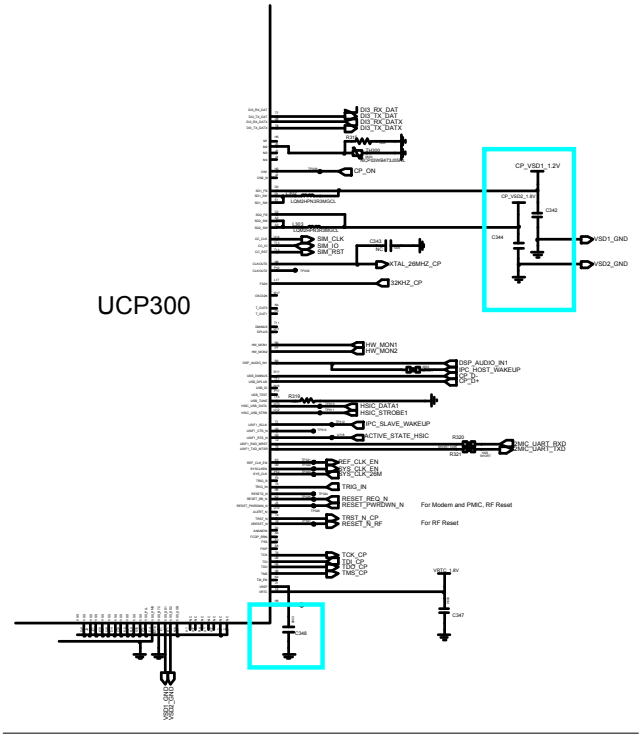

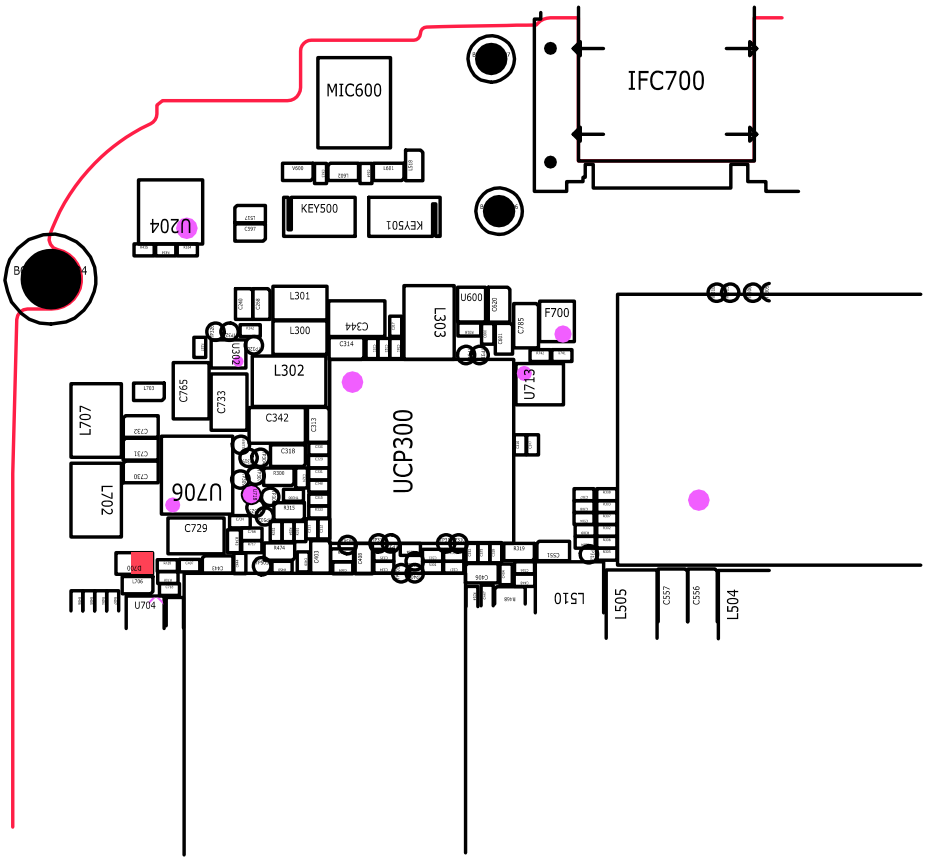

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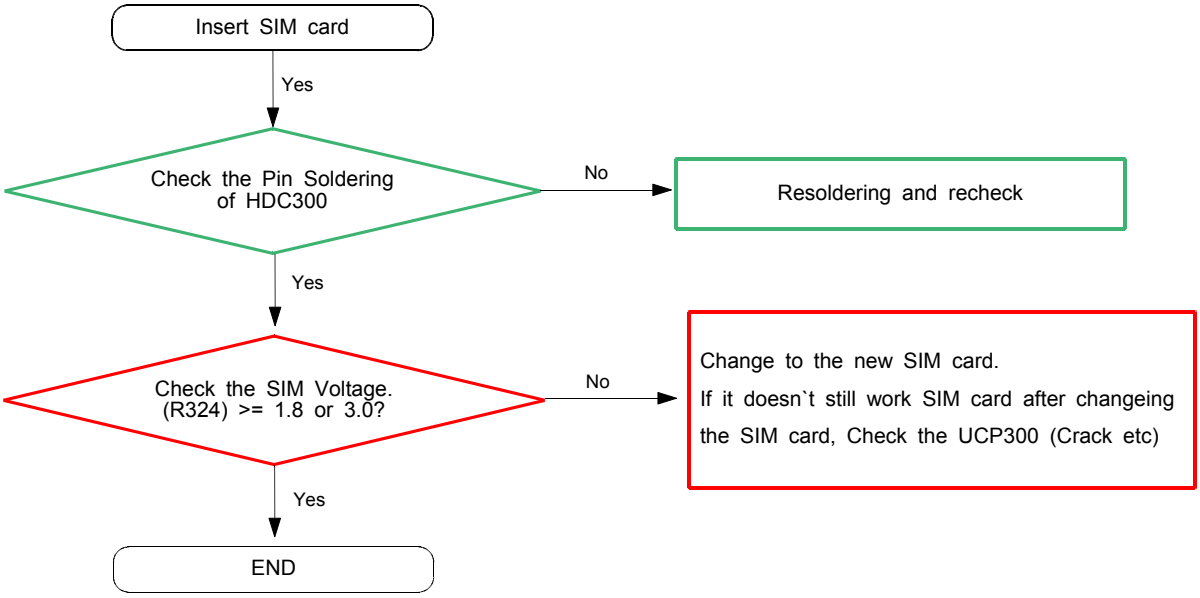
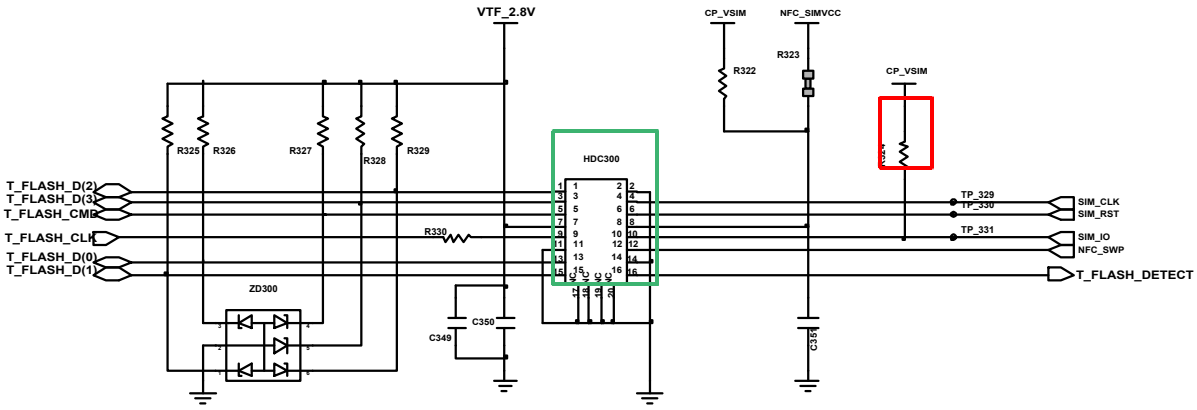
8-3-4. Sim Part


Insert SIM card
Yes
Check the Pin Soldering of HDC300
No
Resoldering and recheck
Yes
Check the SIM Voltage. (R324) >= 1.8 or 3.0?
No
Change to the new SIM card.
If it doesn`t still work SIM card after changeing the SIM card, Check the UCP300 (Crack etc)
Yes
END



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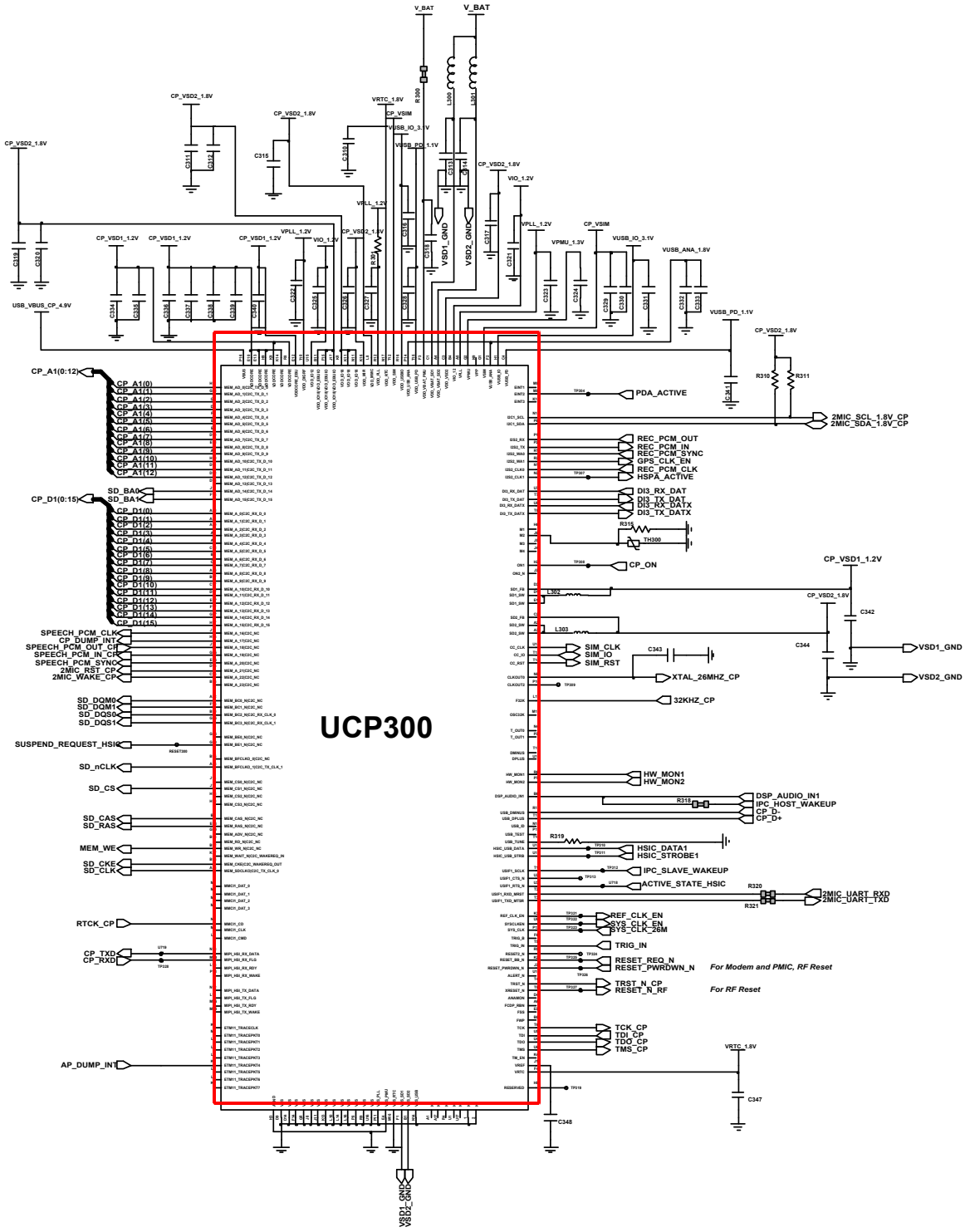

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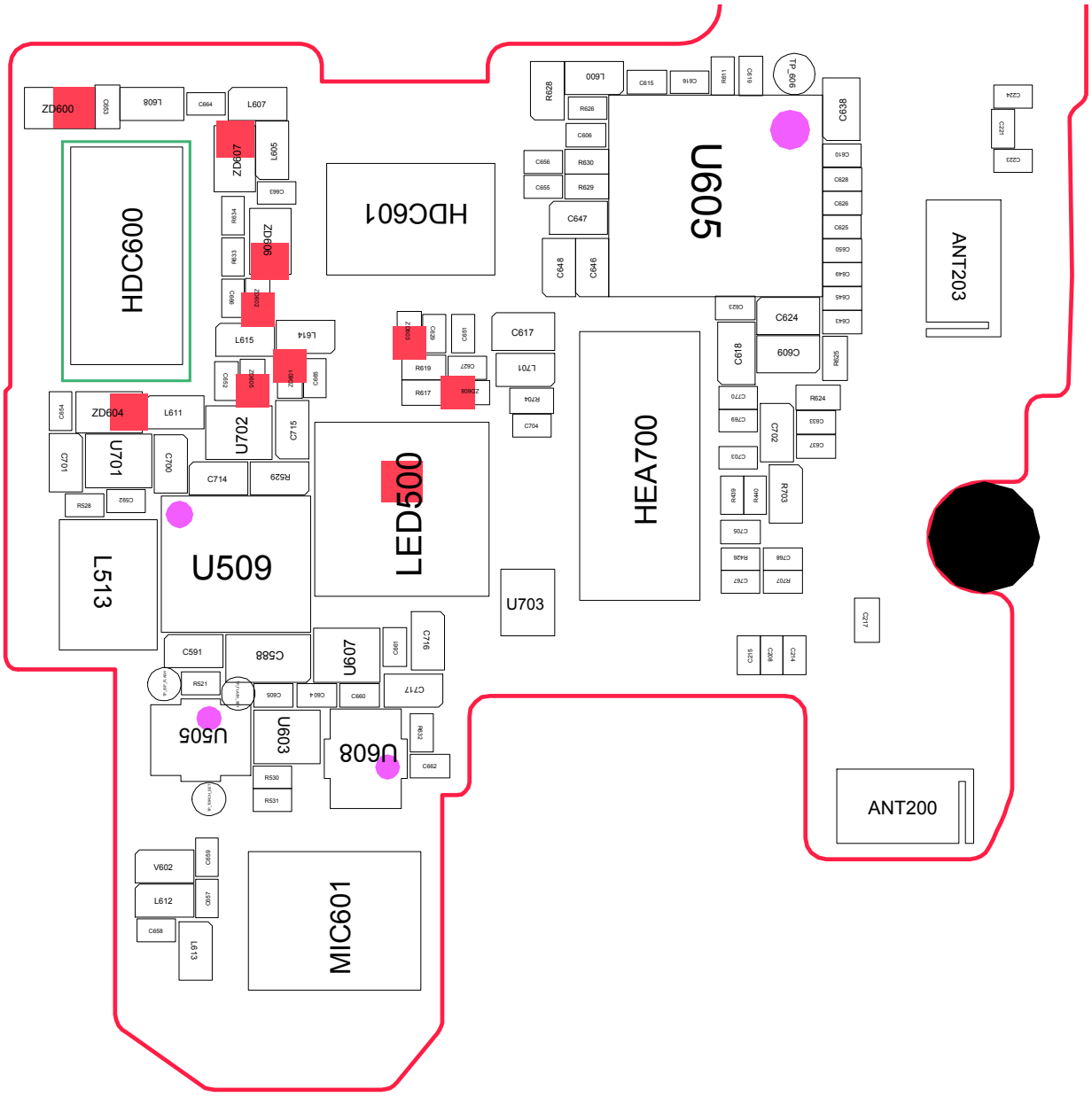

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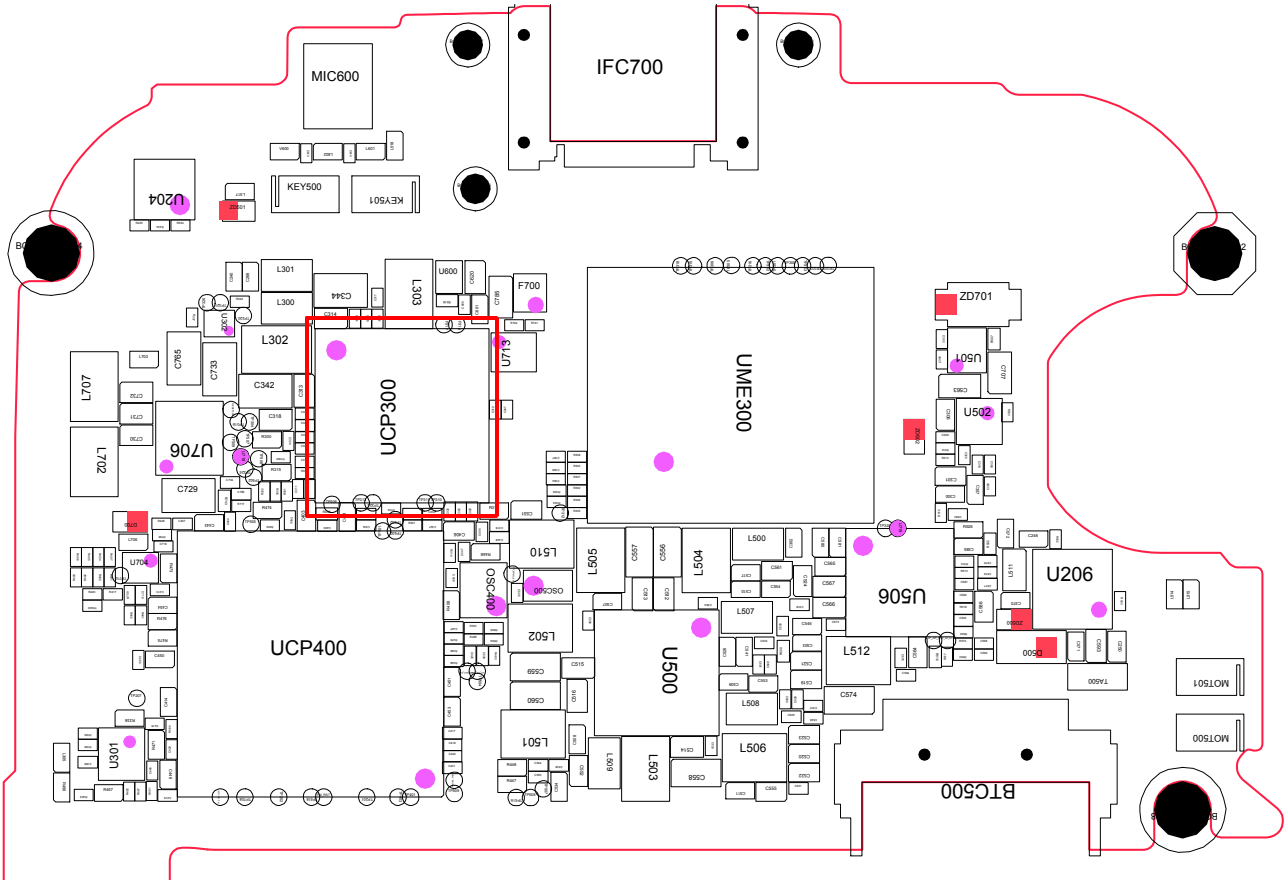

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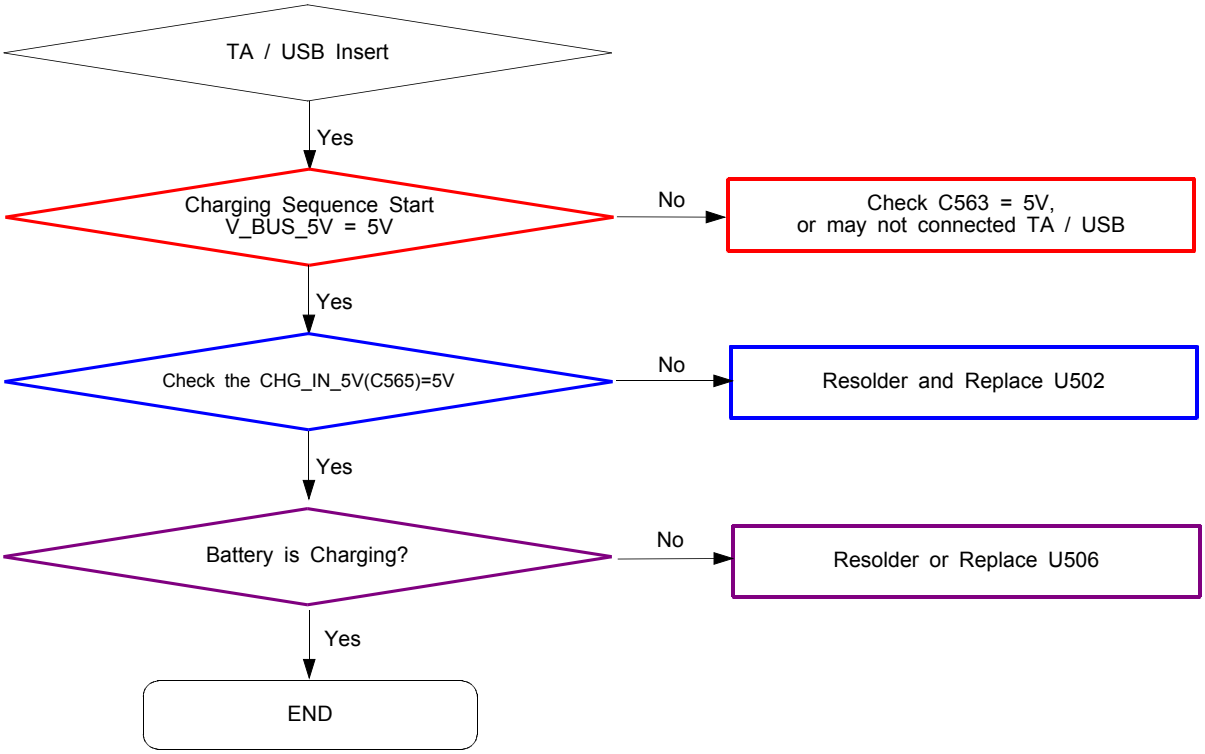
8-3-5. Charging Part



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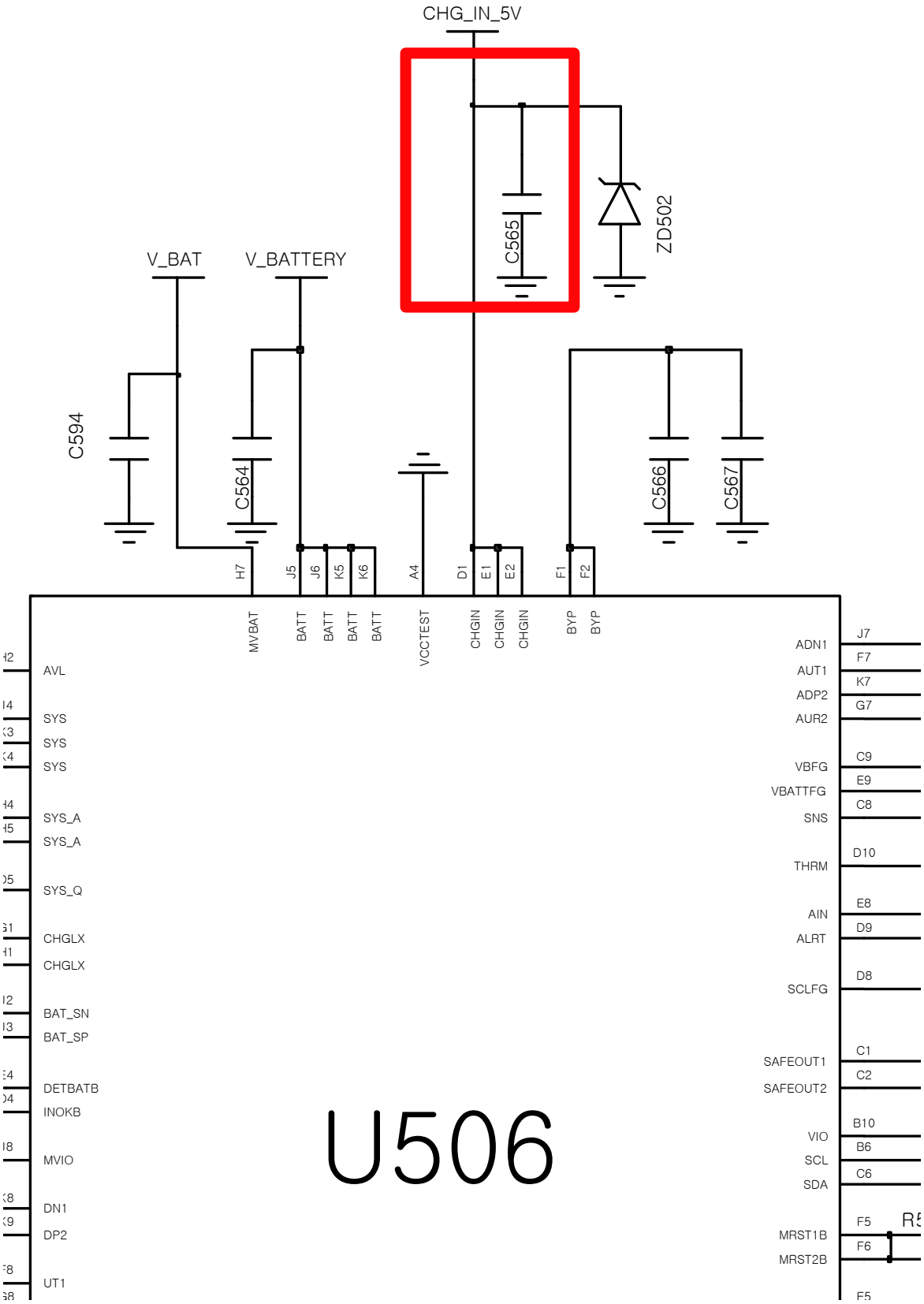

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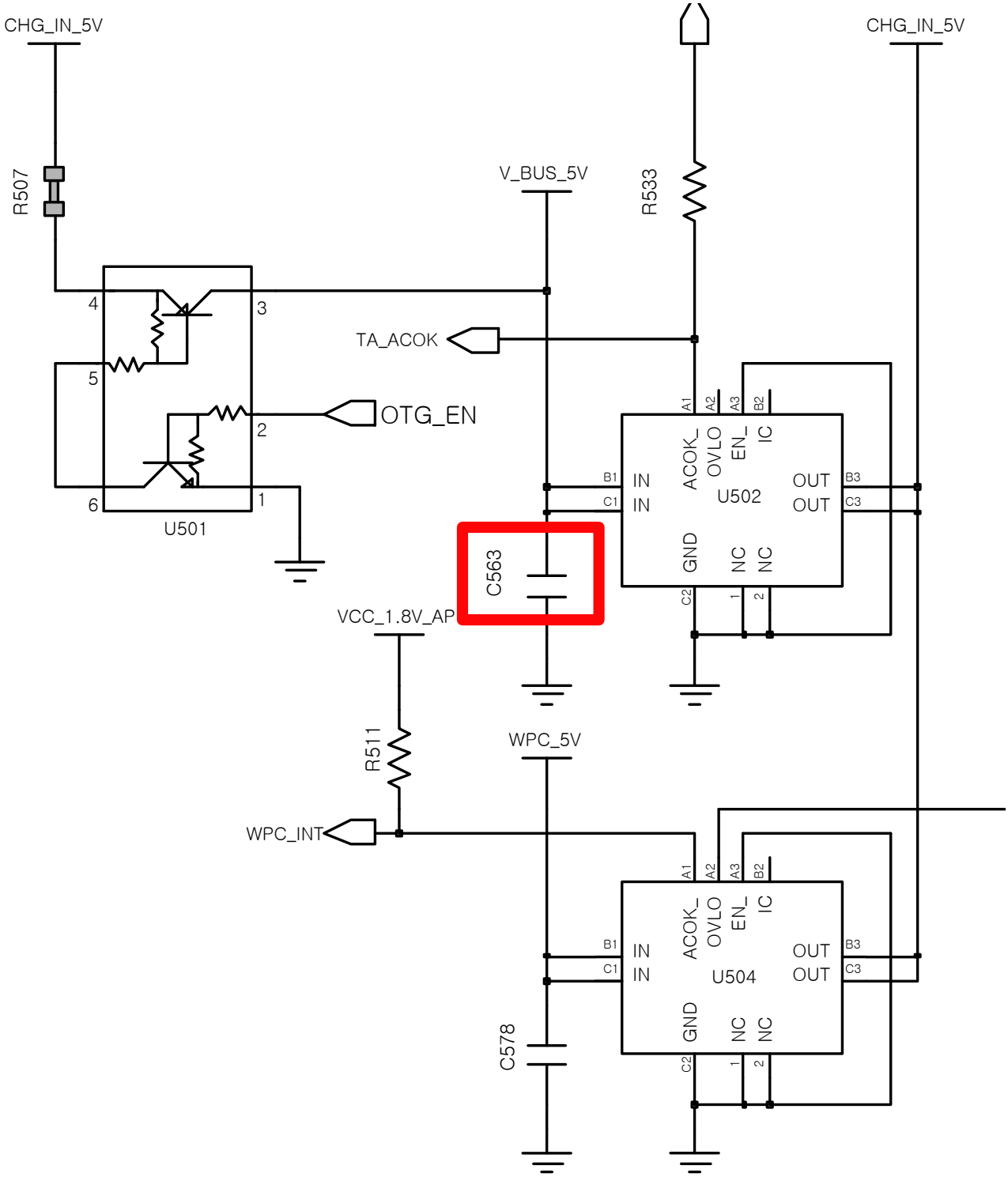

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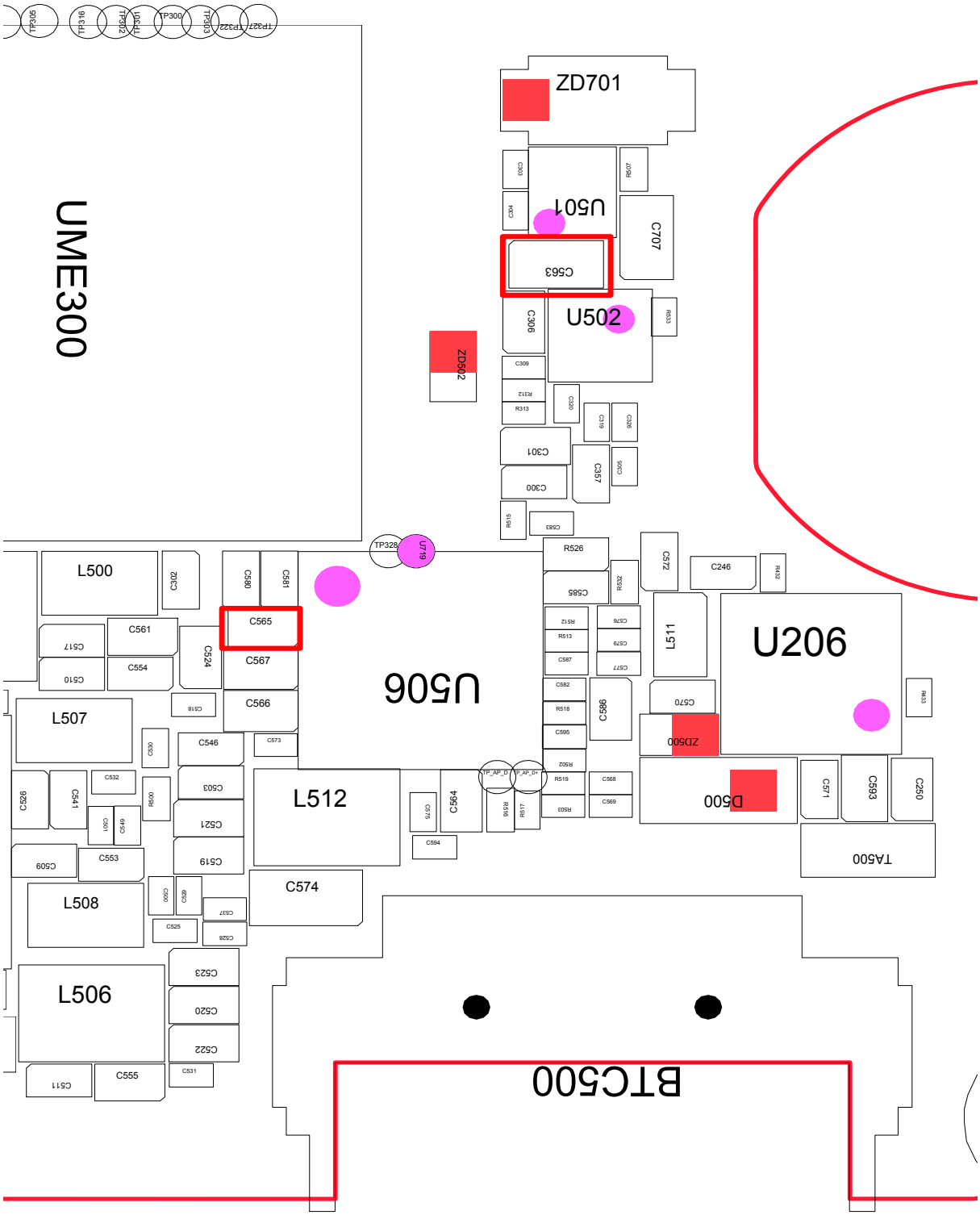

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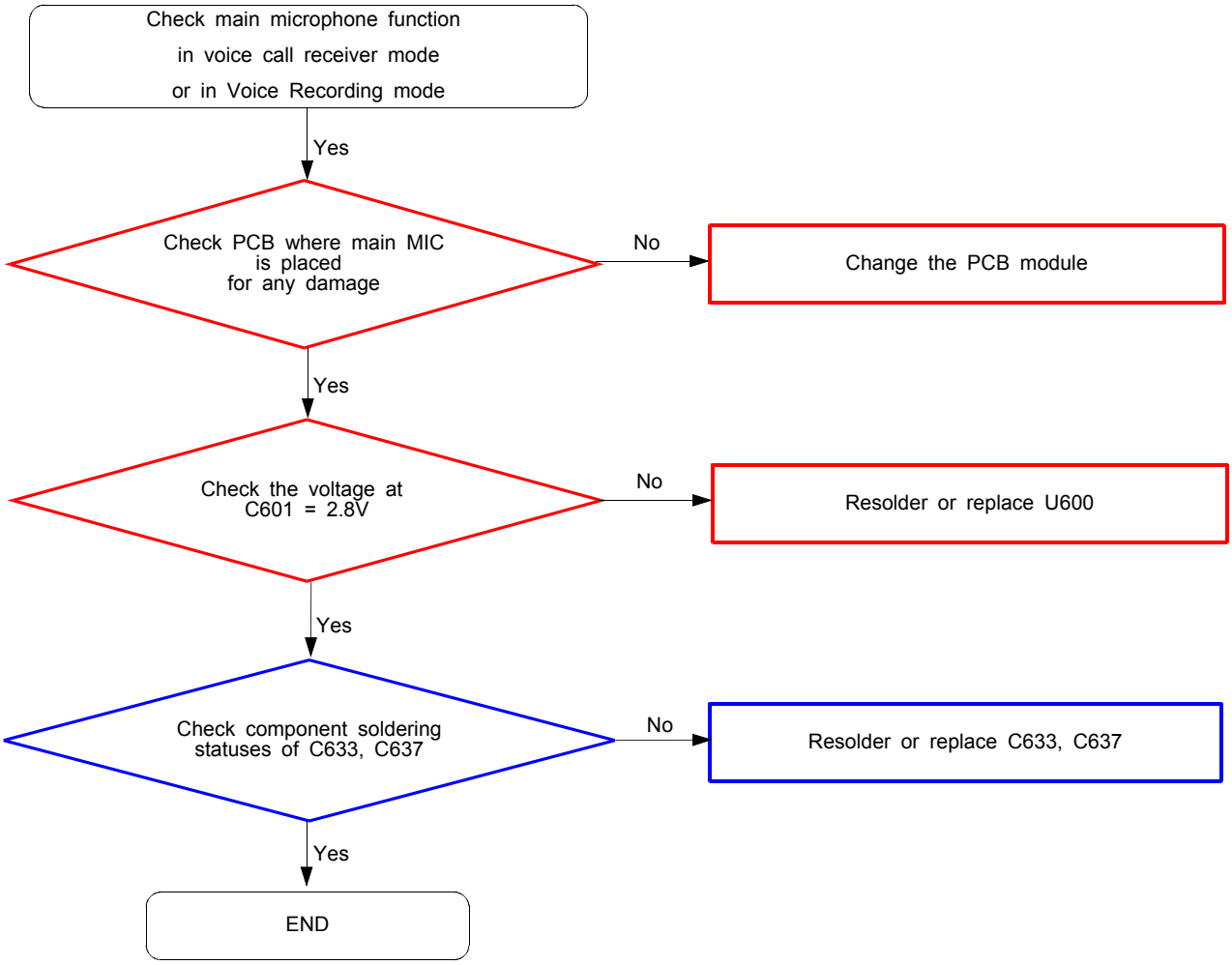
8-3-6. Microphone Part (Main MIC)



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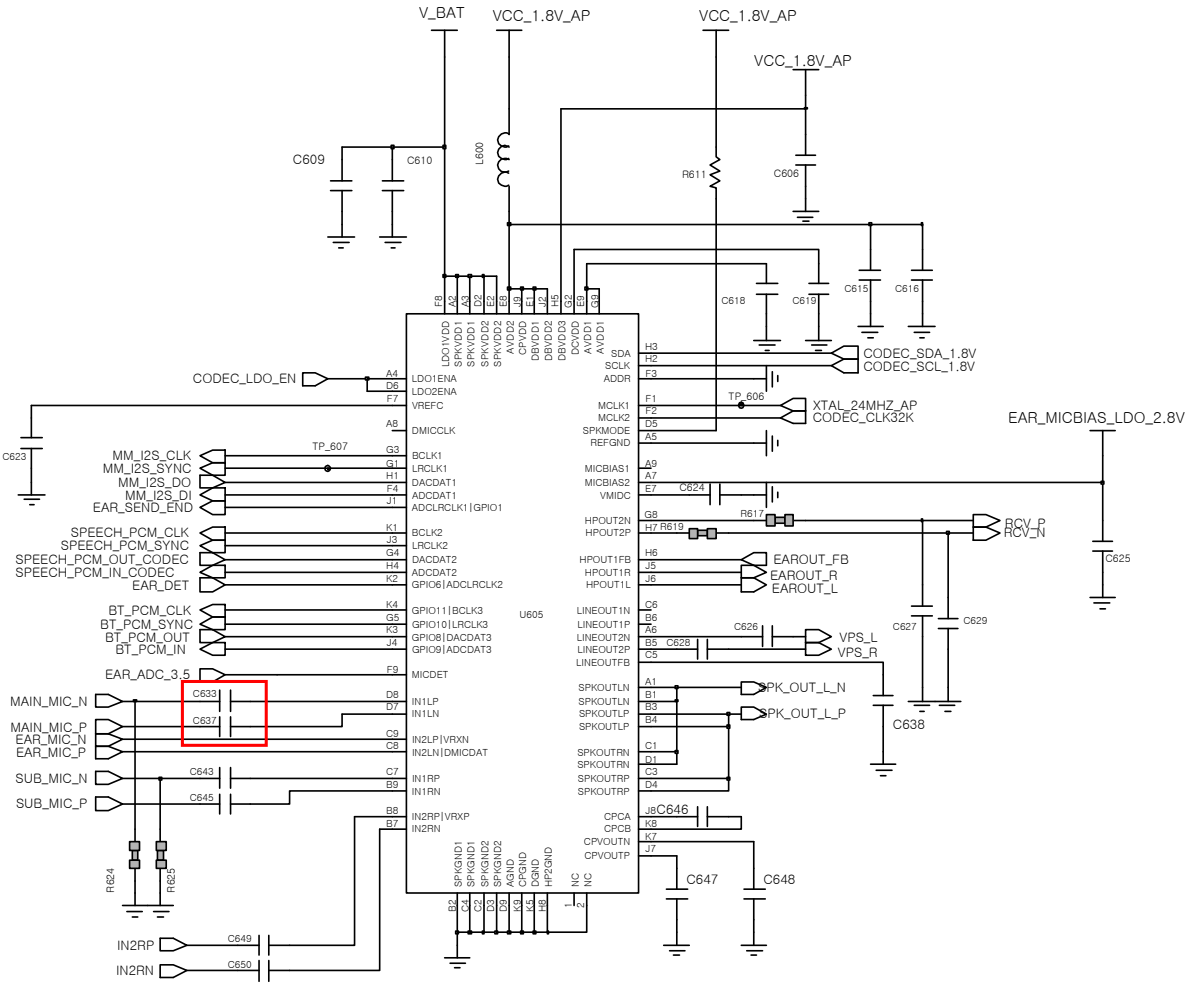

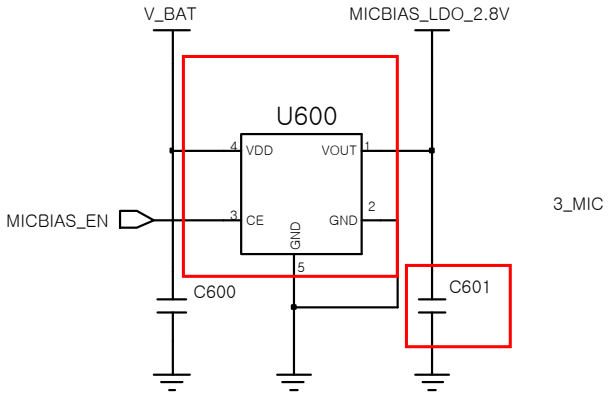

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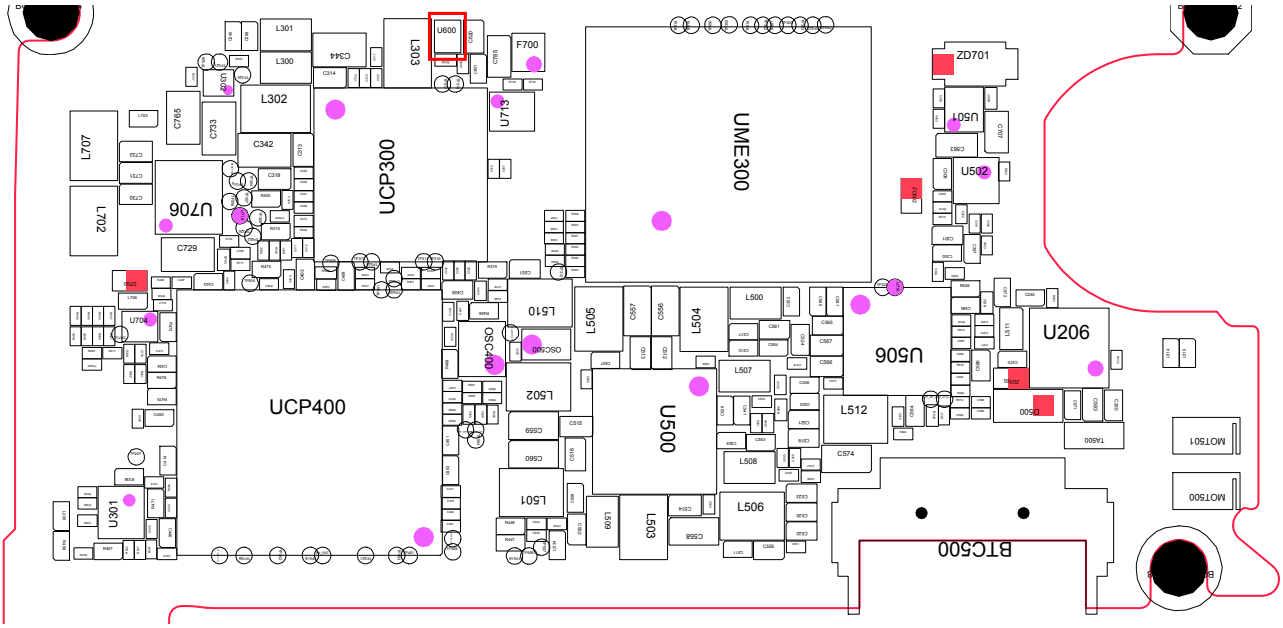

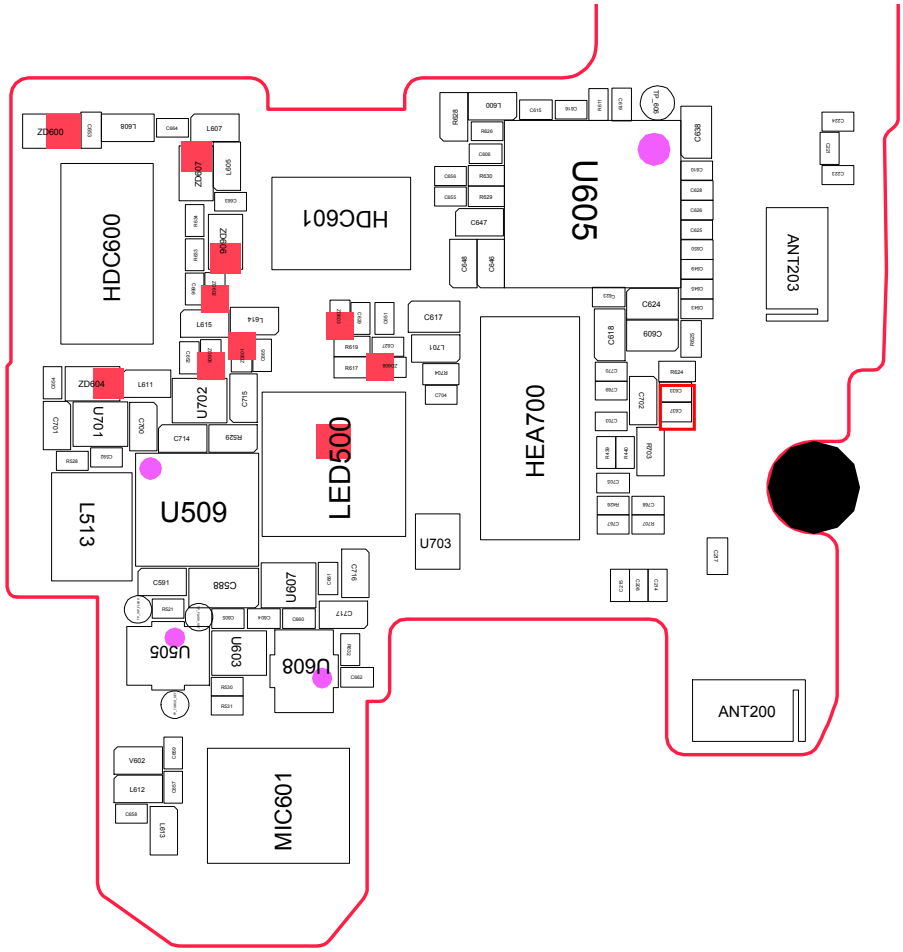

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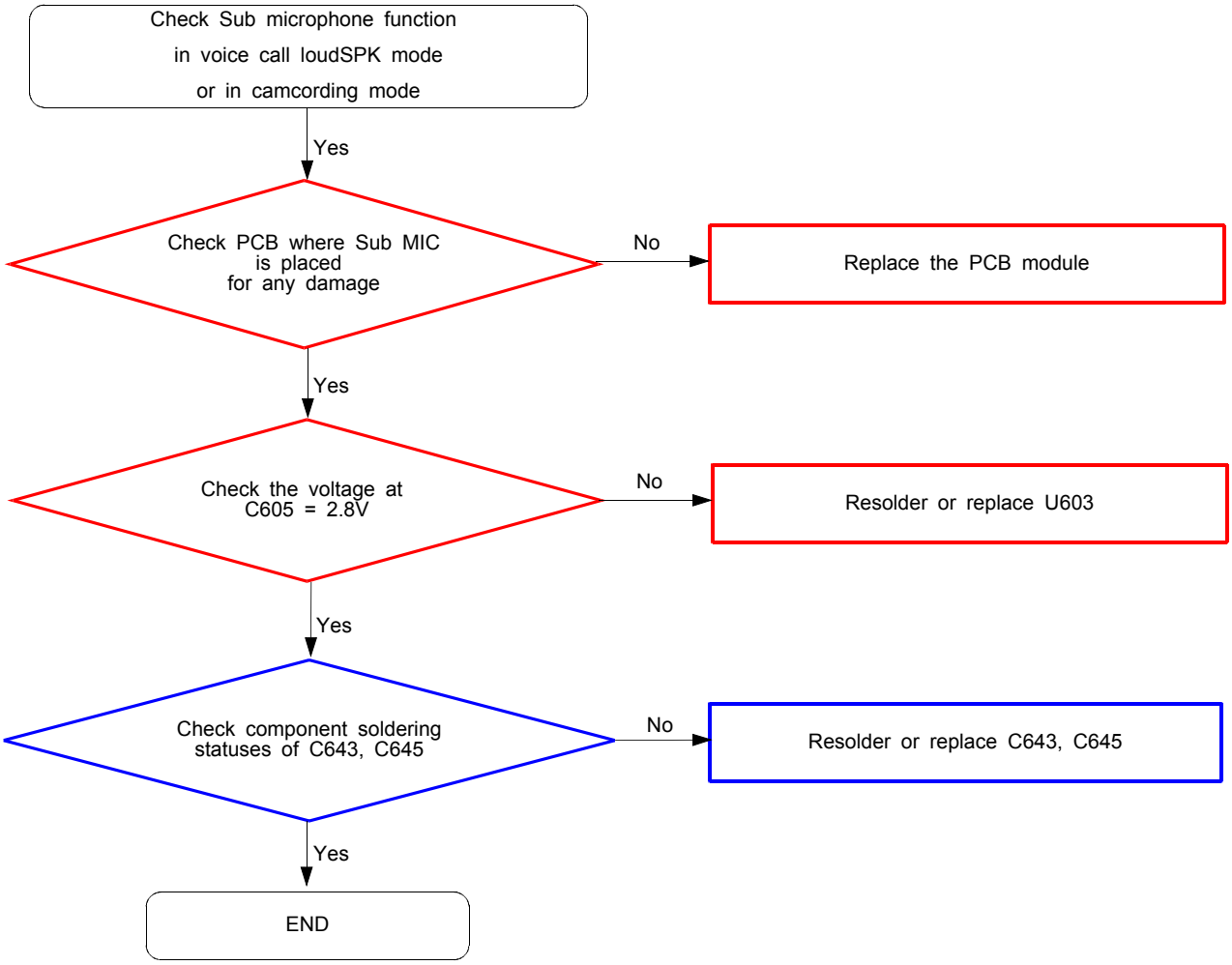
8-3-6-1. Microphone Part (Sub MIC)



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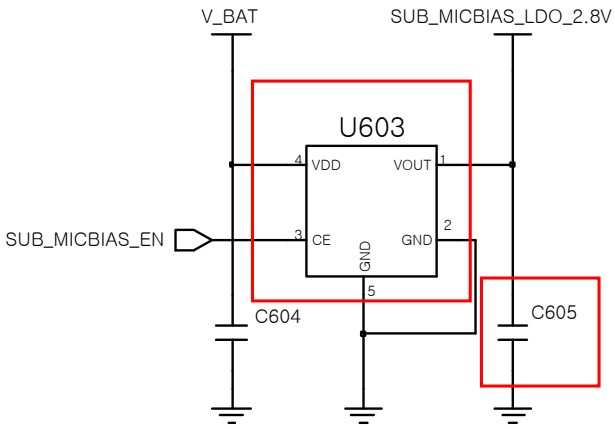

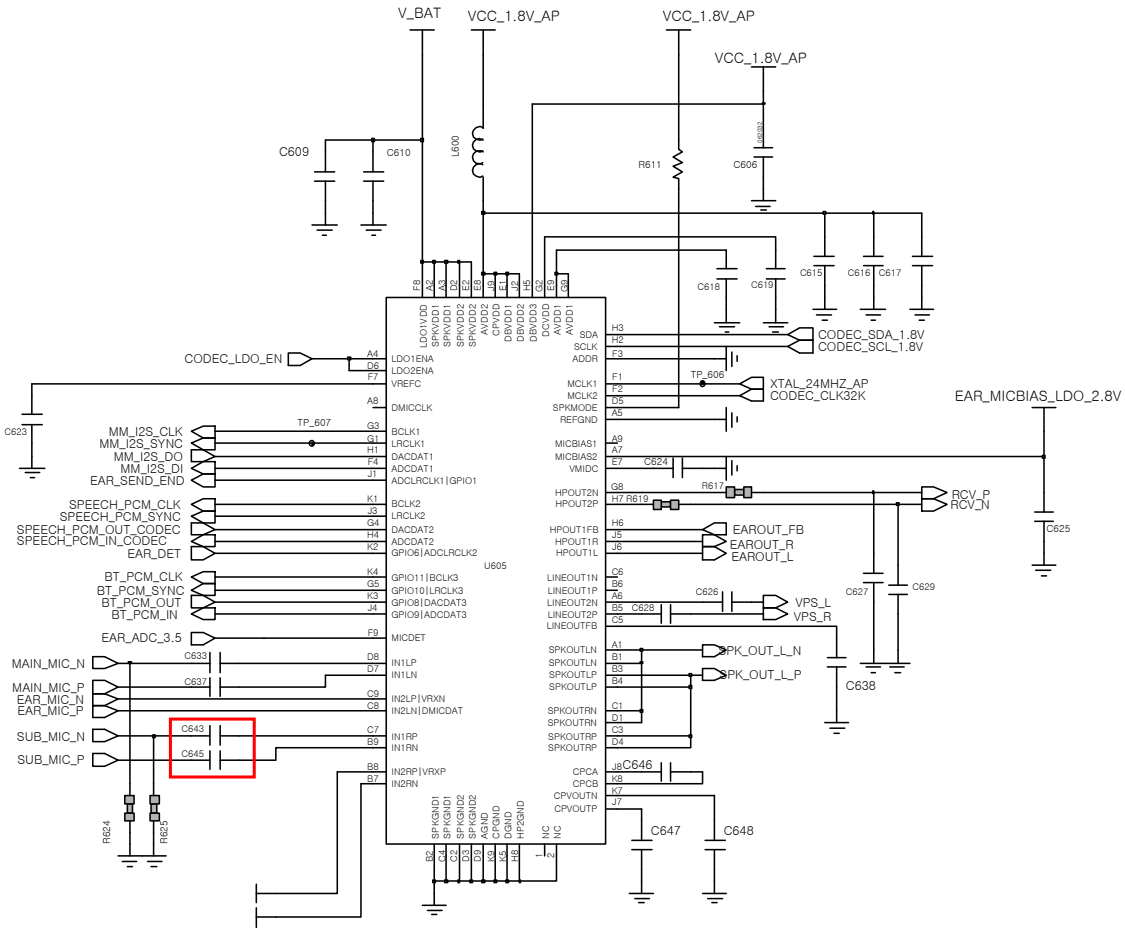

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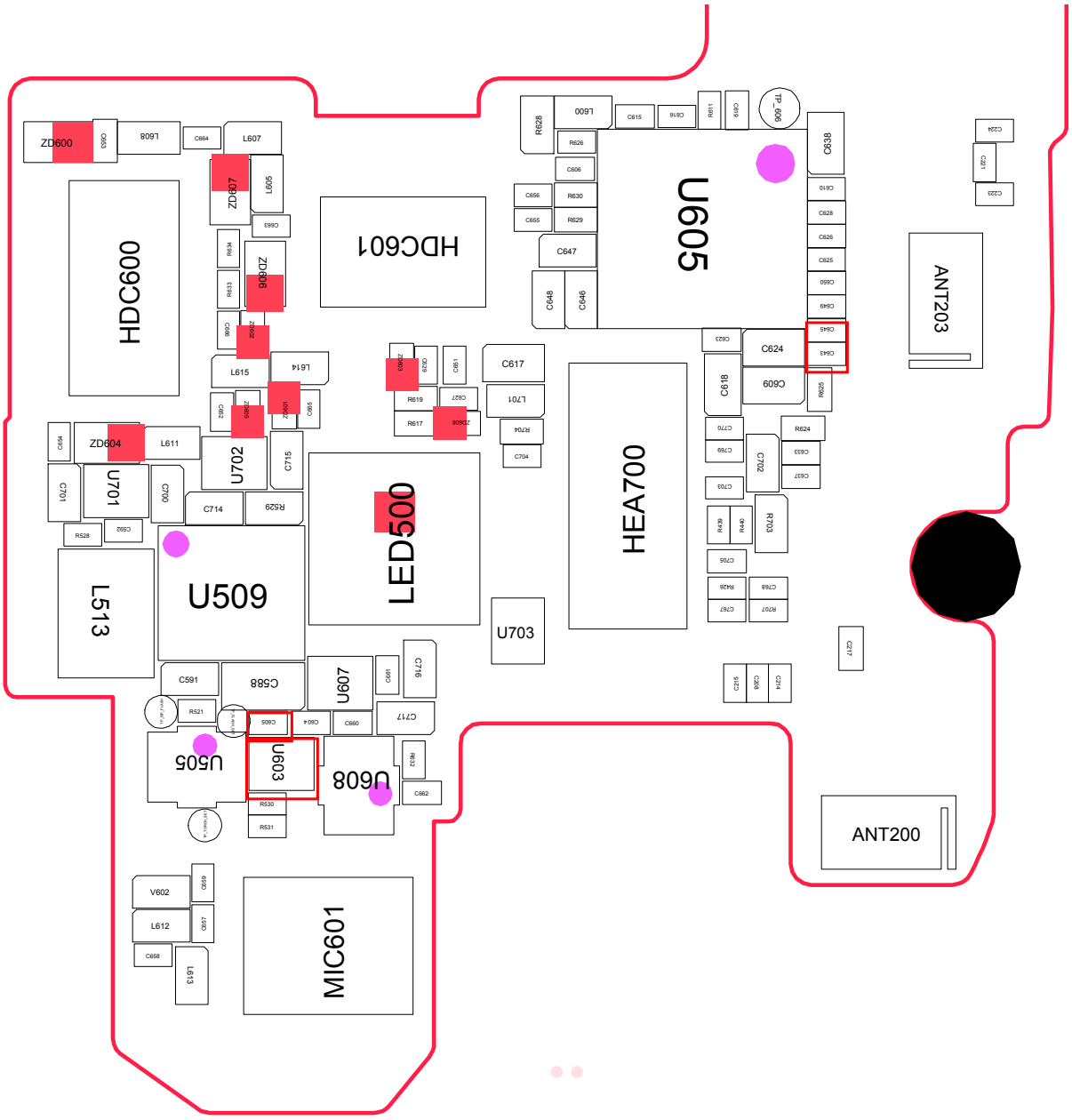

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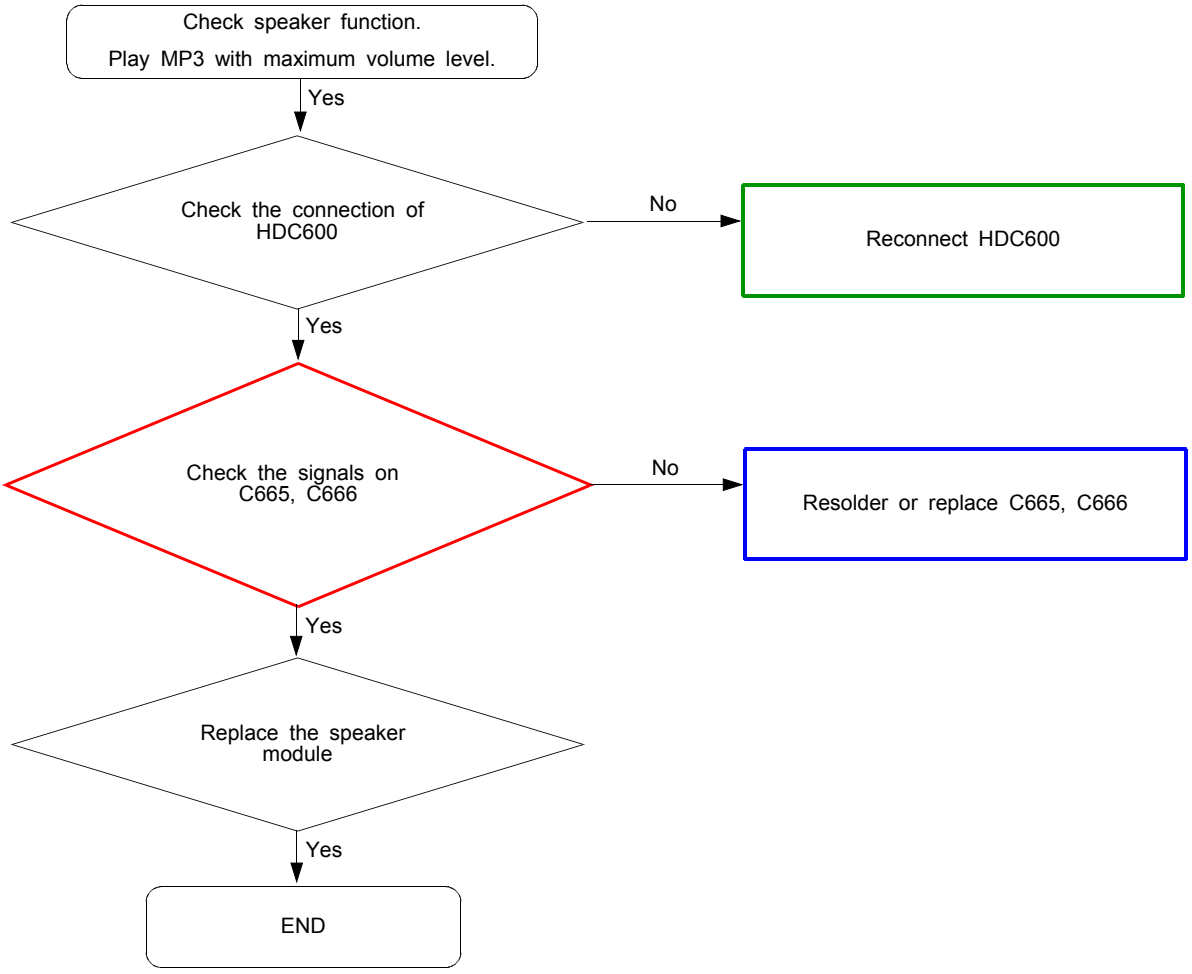
8-3-7. Speaker Part



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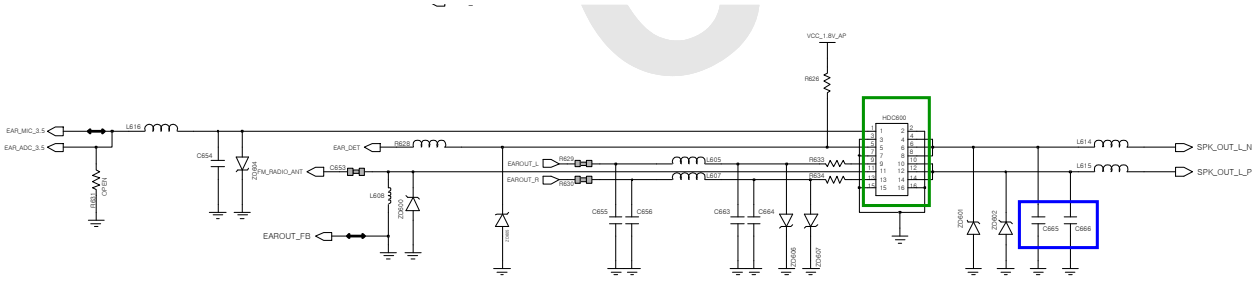

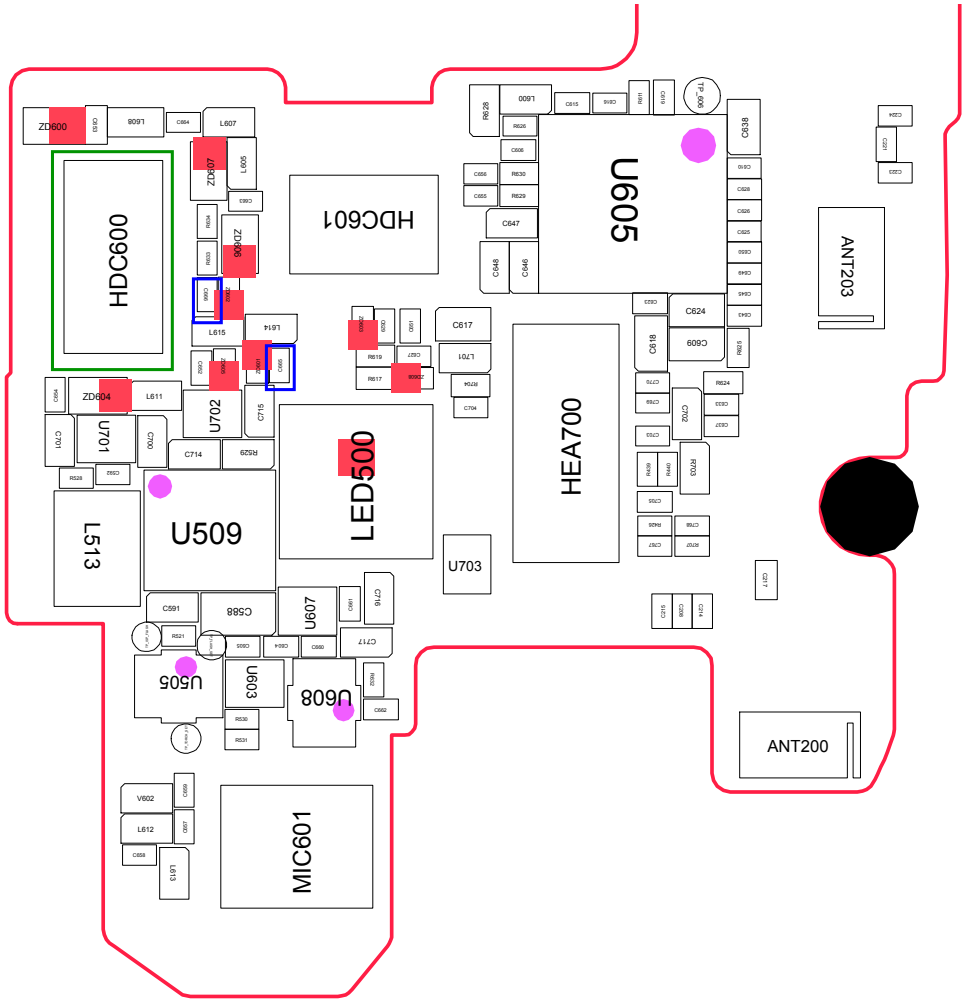

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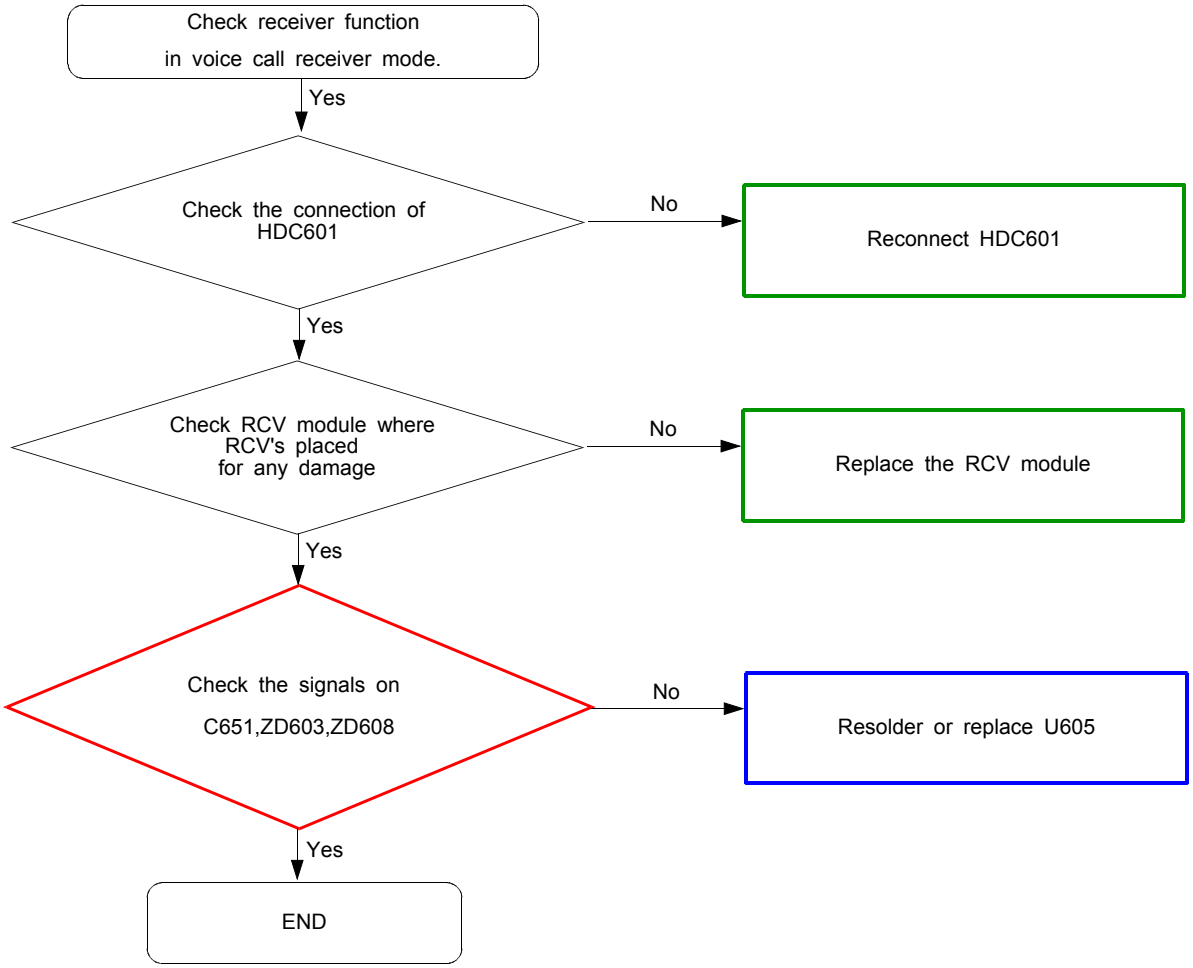
8-3-8. Receiver Part



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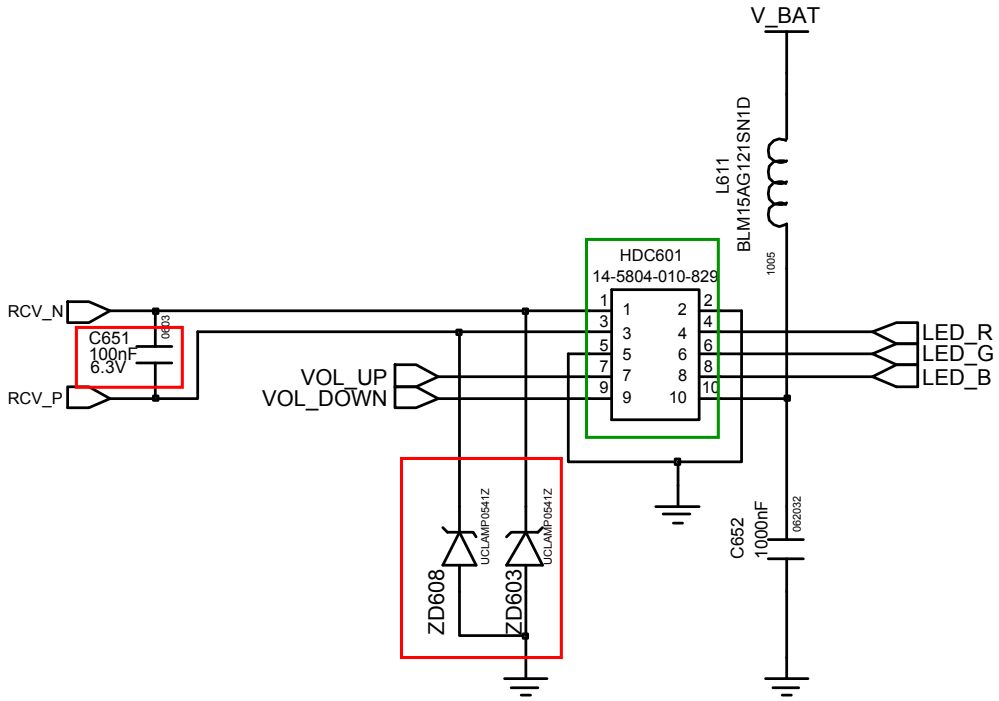

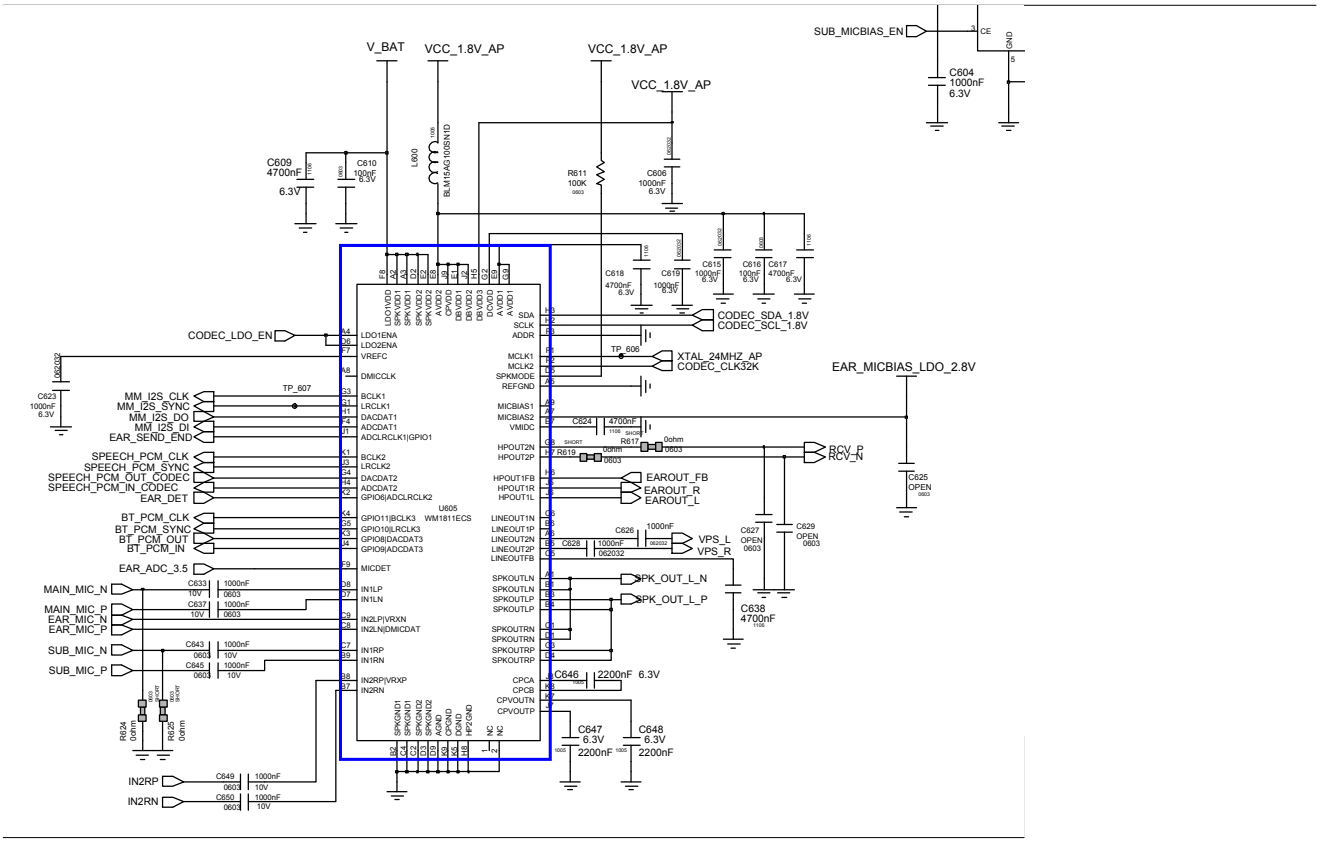

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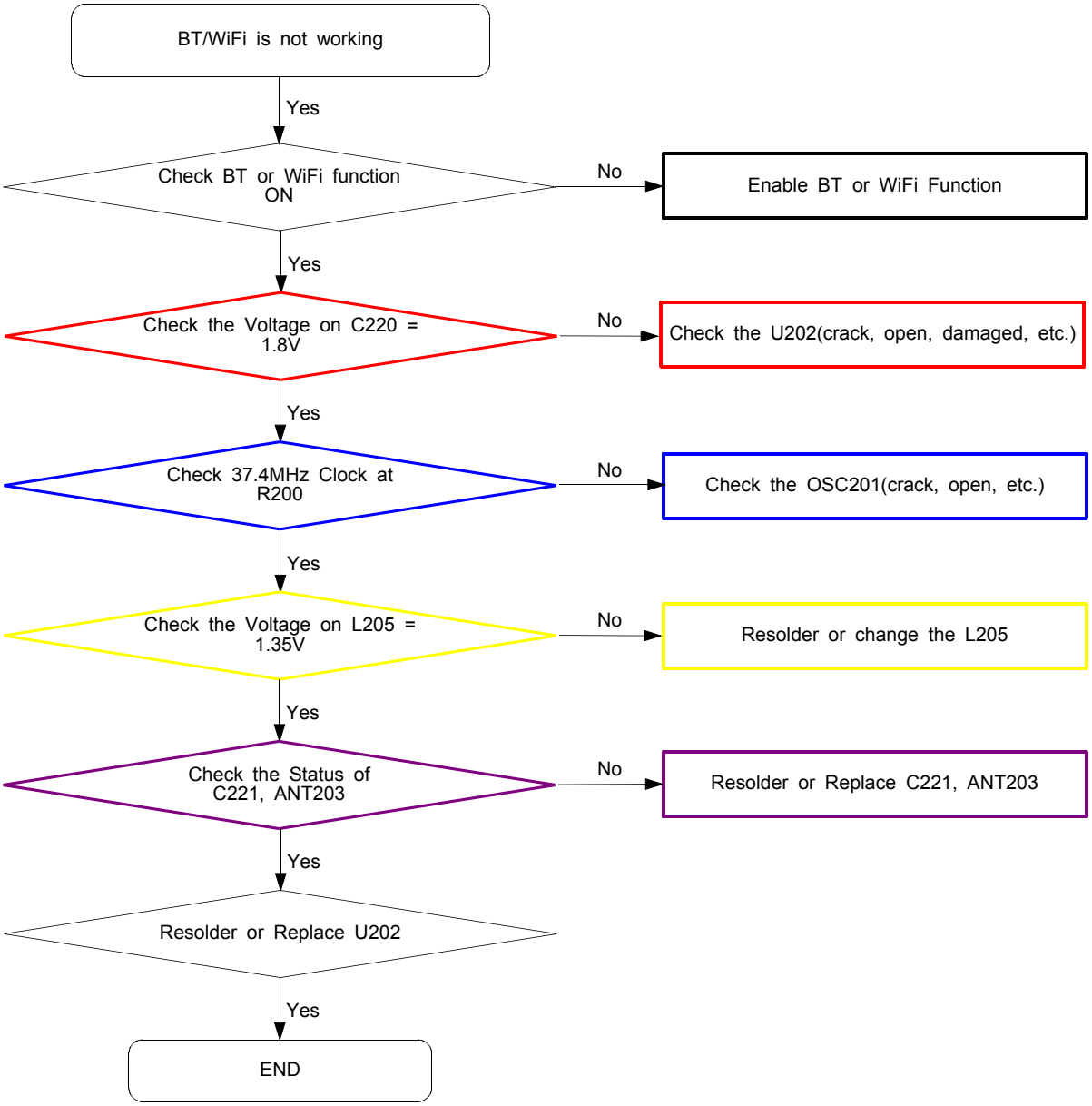
8-3-9. BT/WIFI



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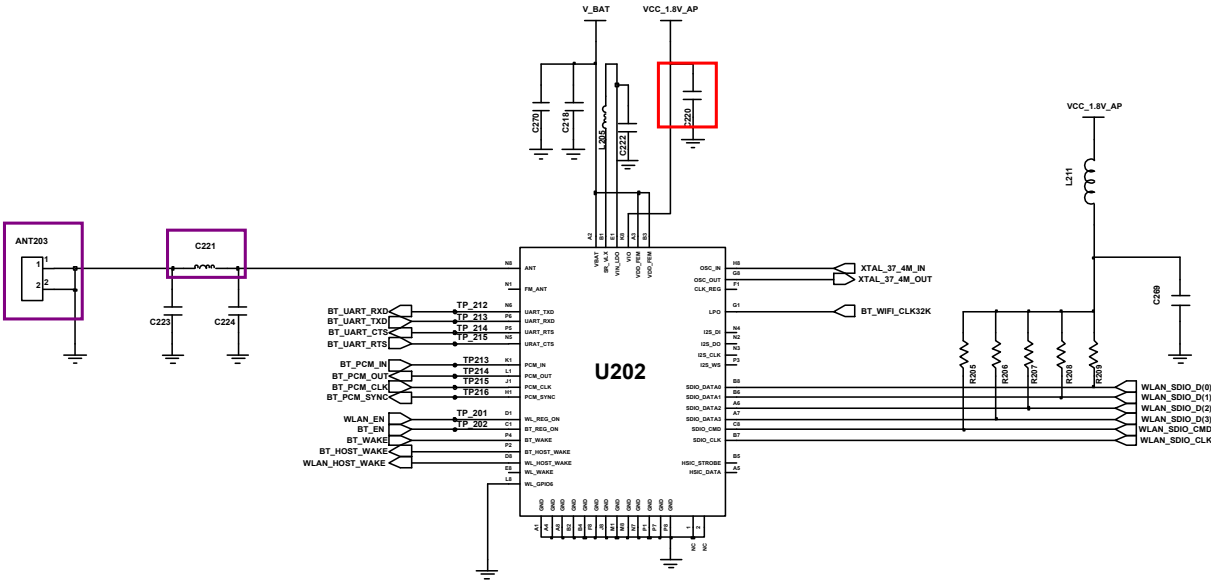

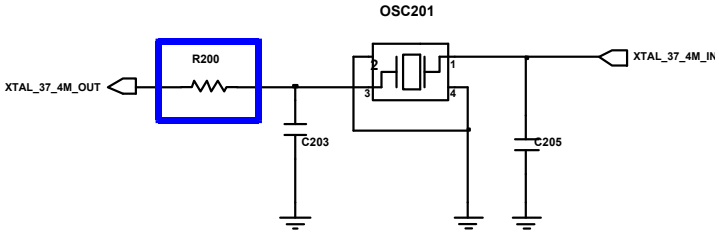

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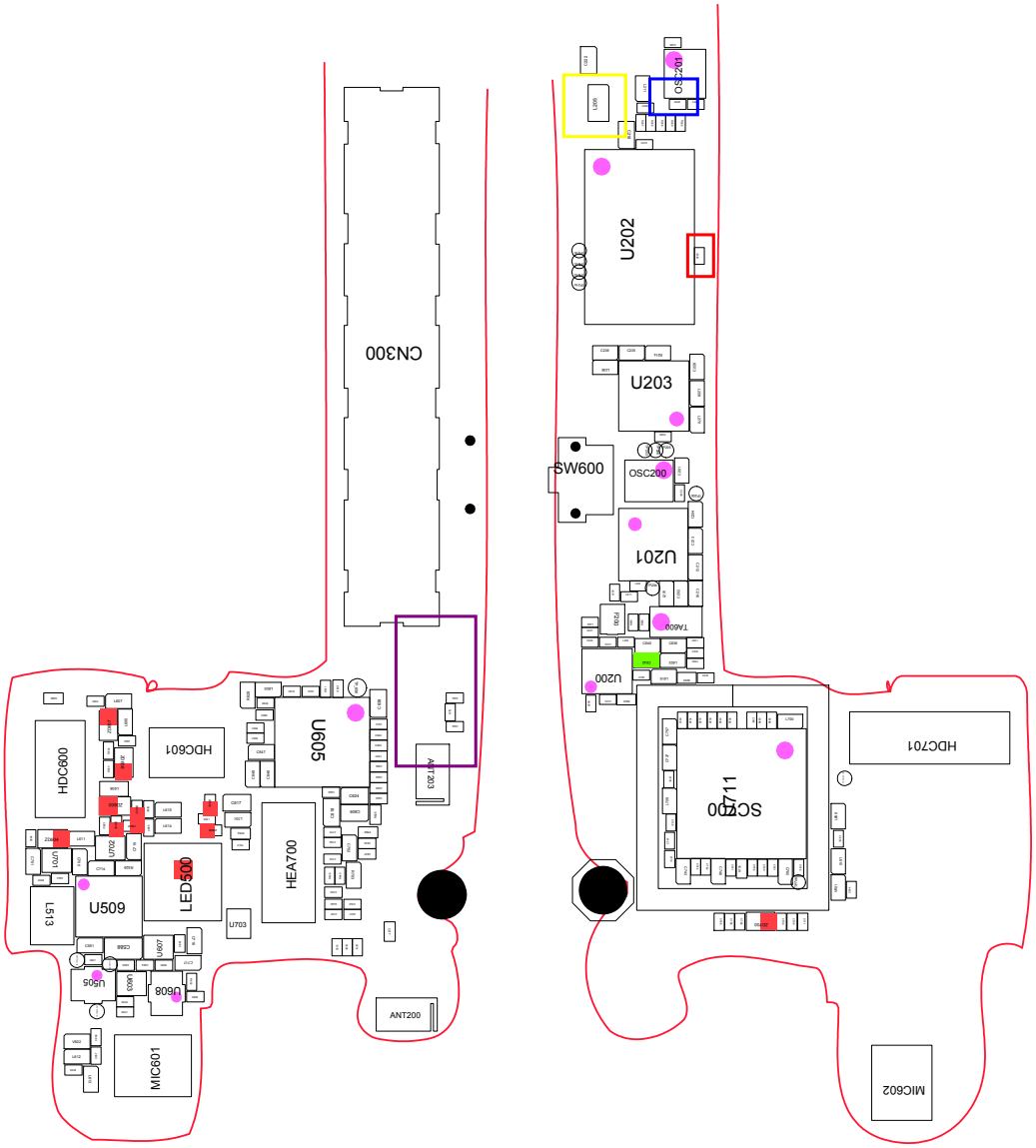

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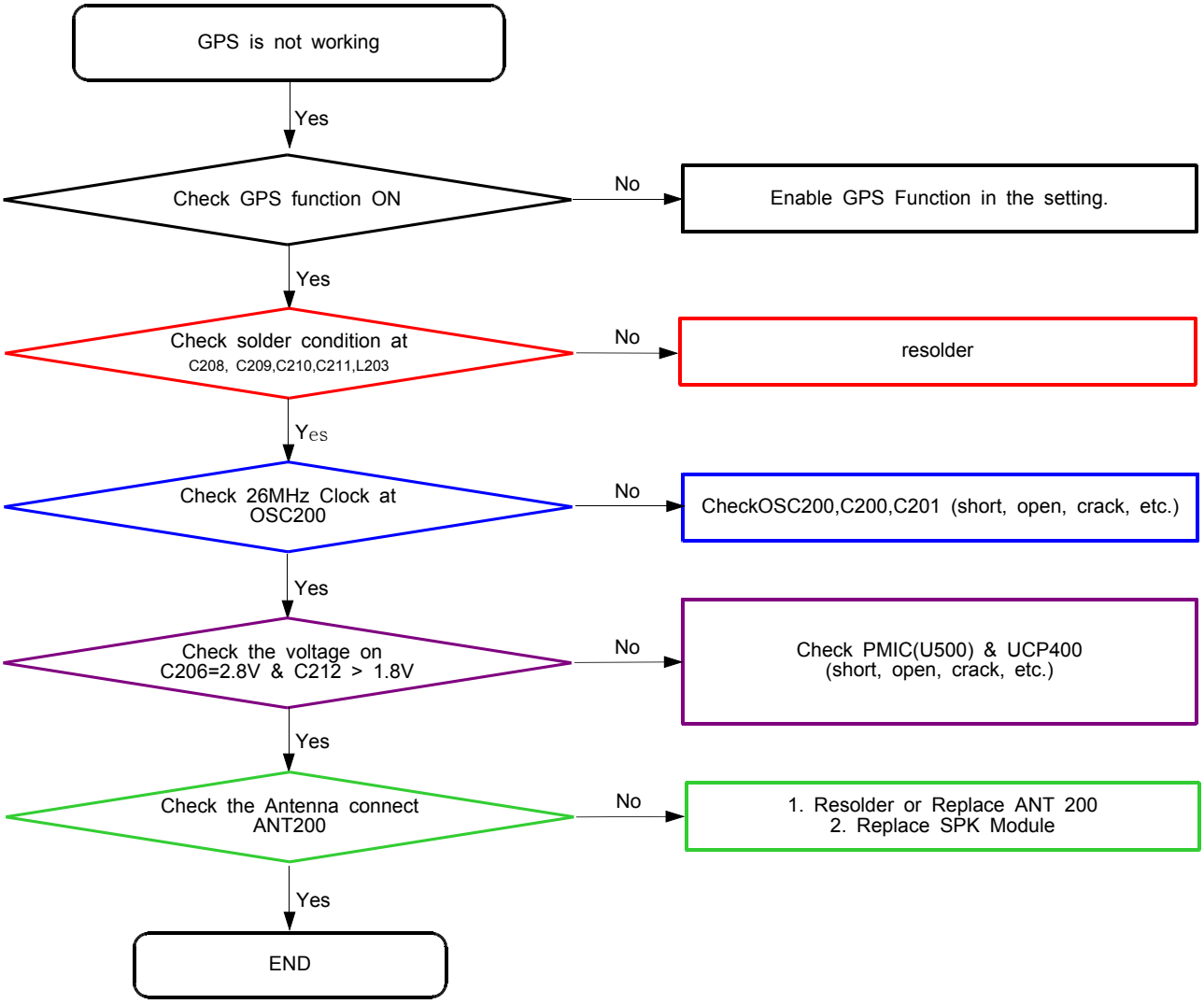
8-3-10. GPS



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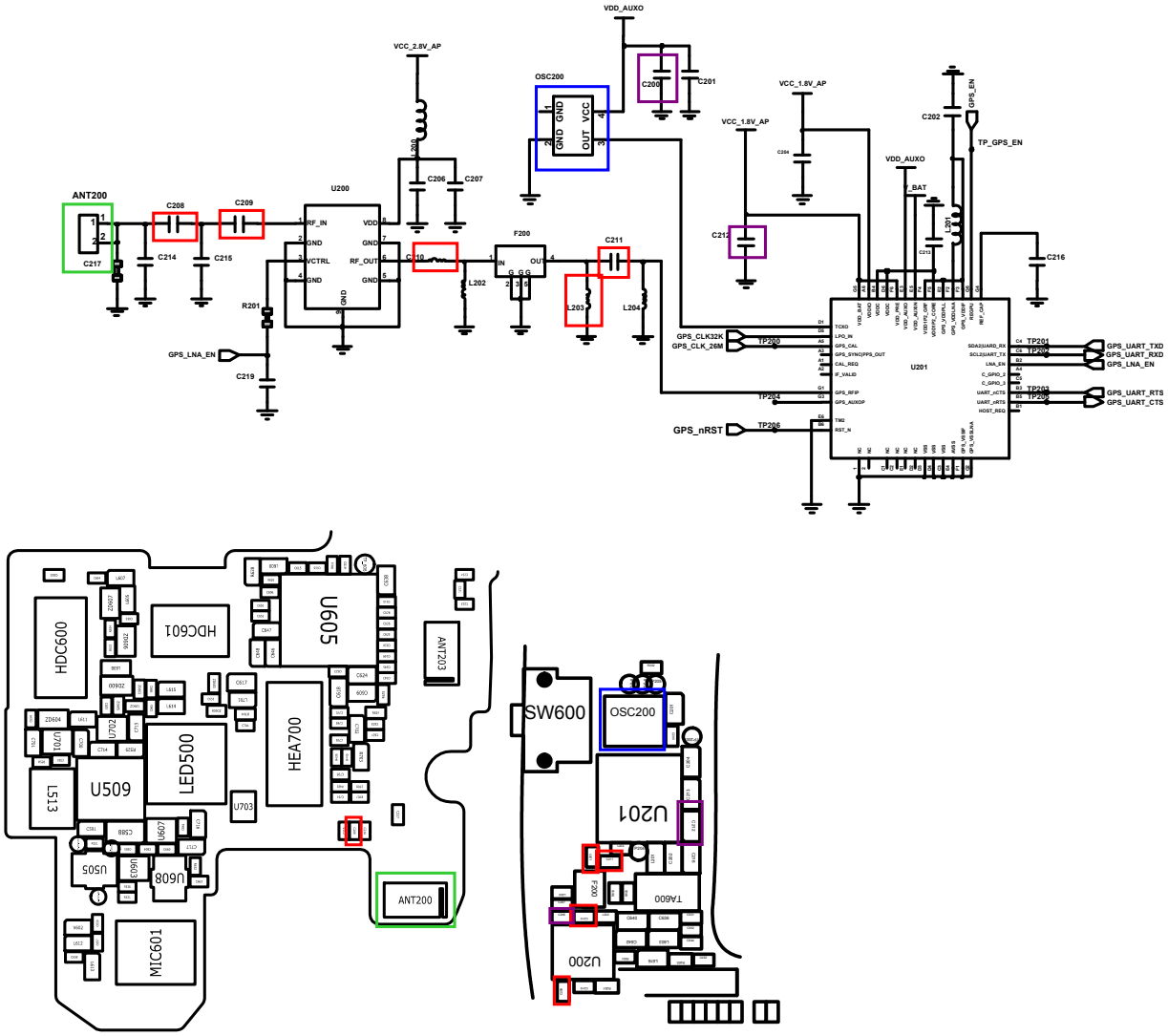

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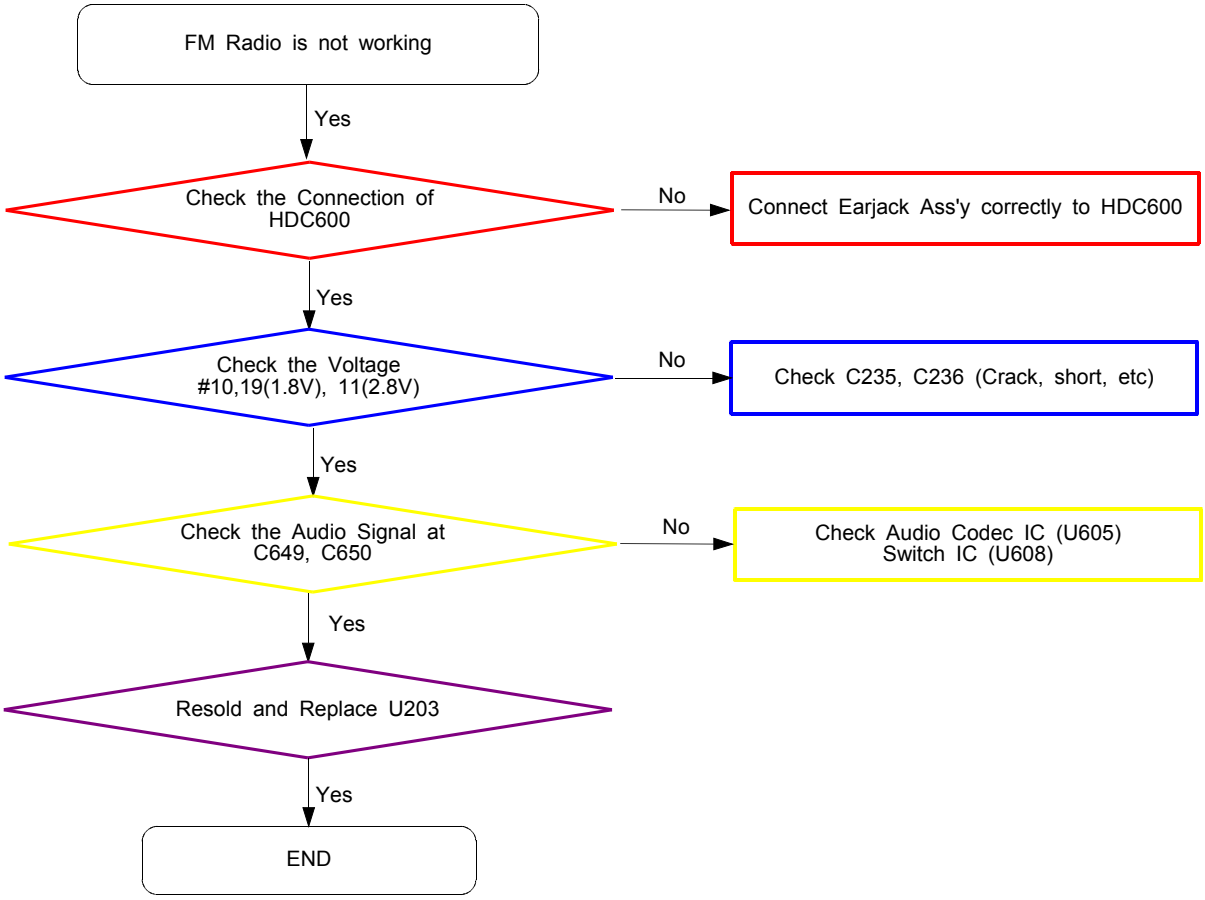
8-3-11. FM RADIO



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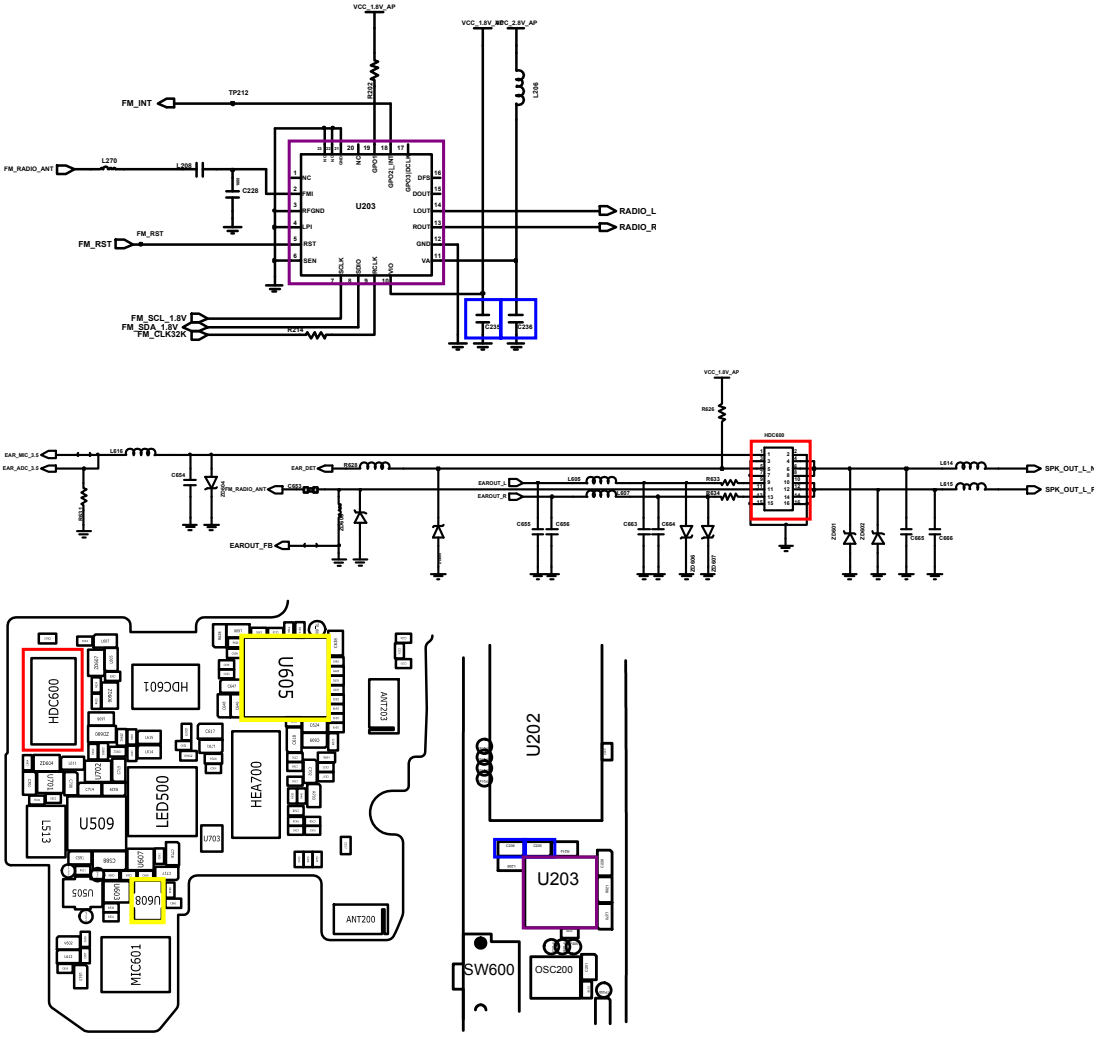

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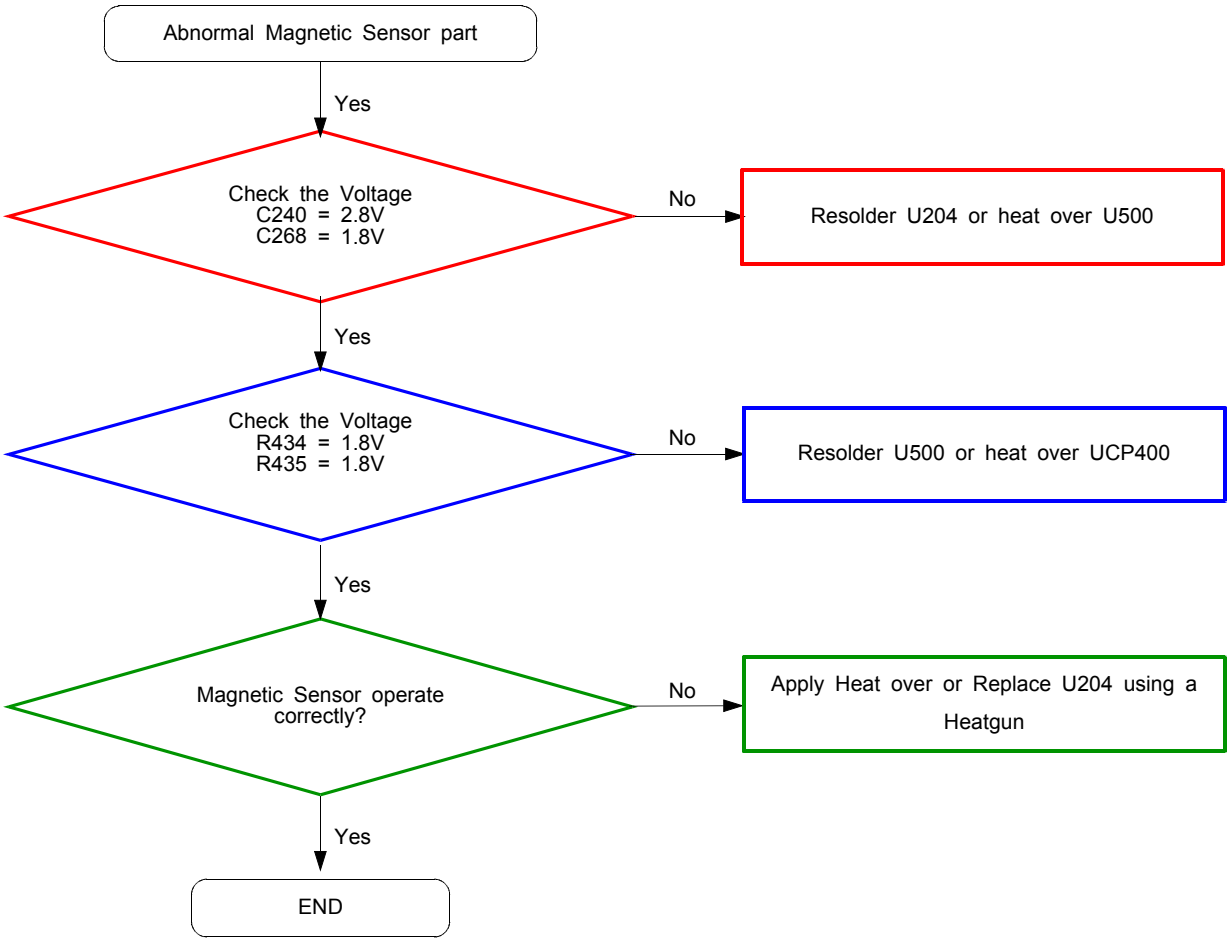
8-3-12.Sensor Part

1. Magnetic Sensor



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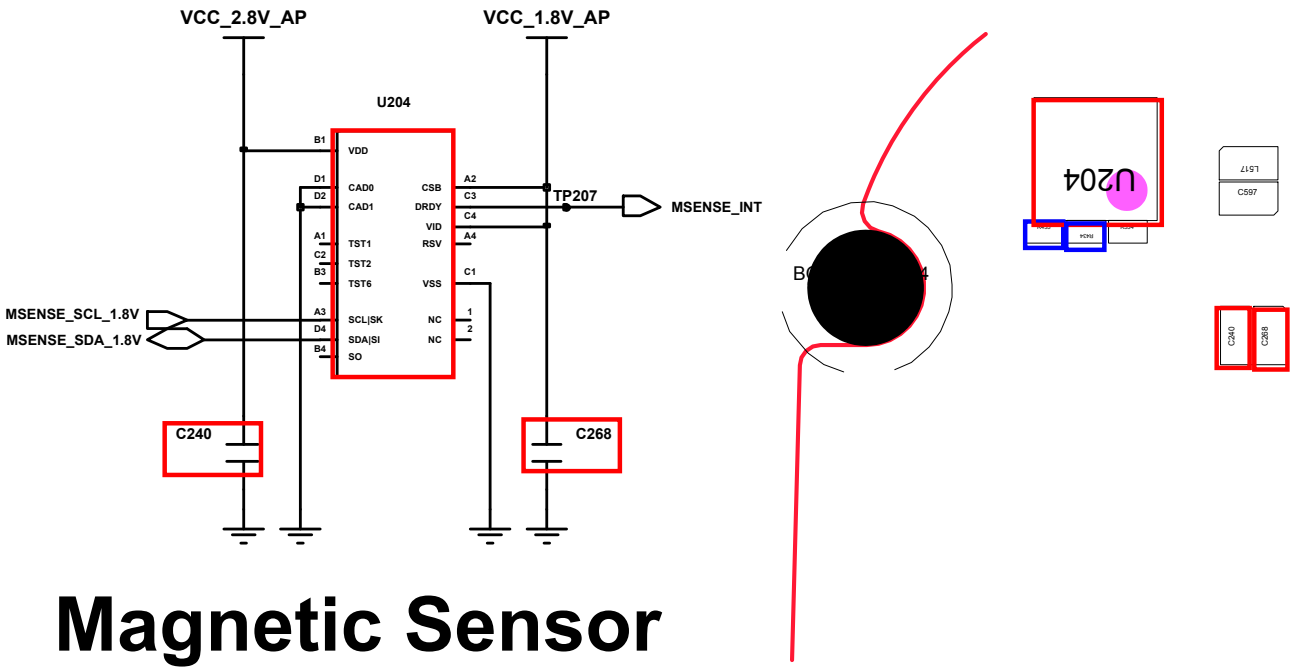
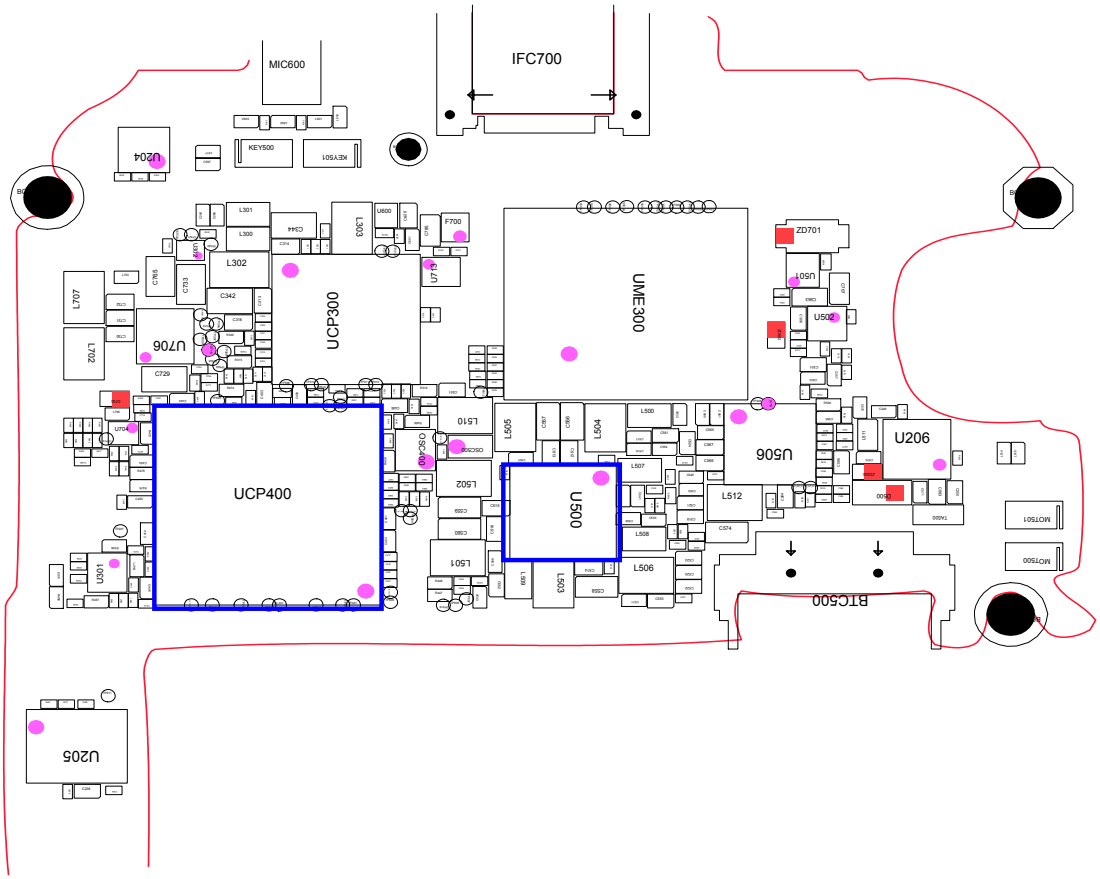


Magnetic Sensor



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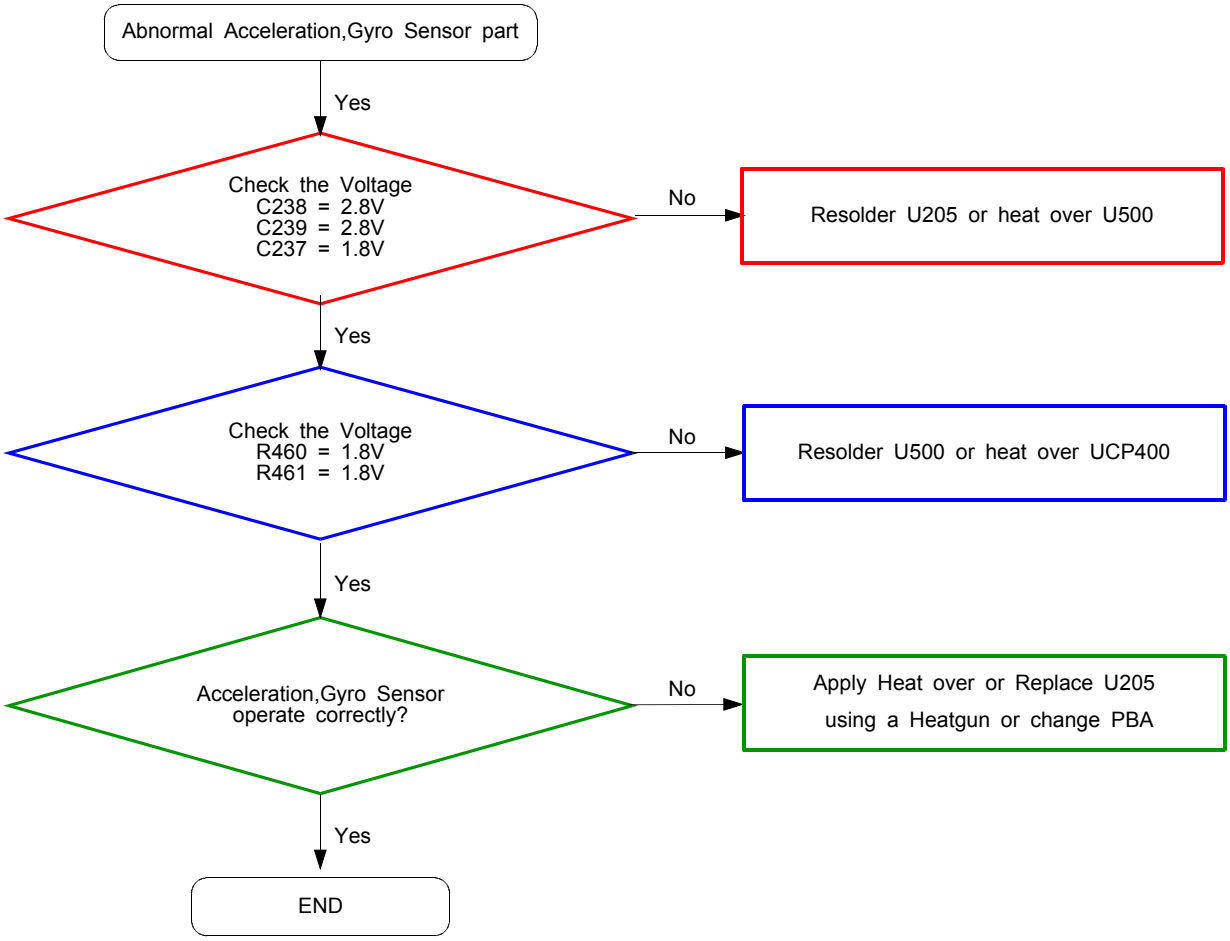
2. Acceleration , Gyro Sensor



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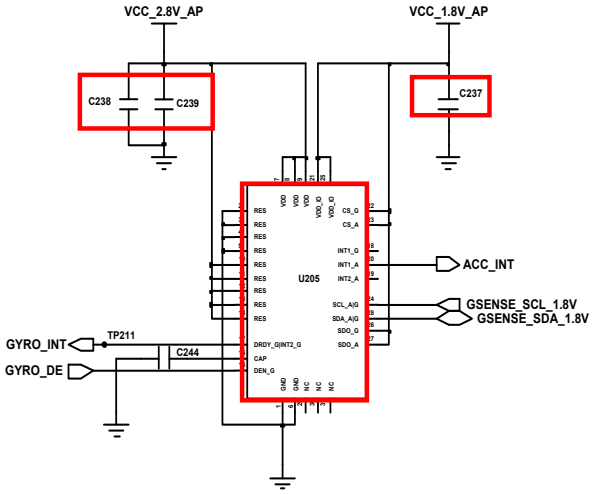
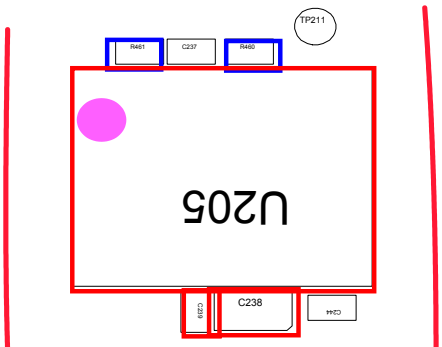
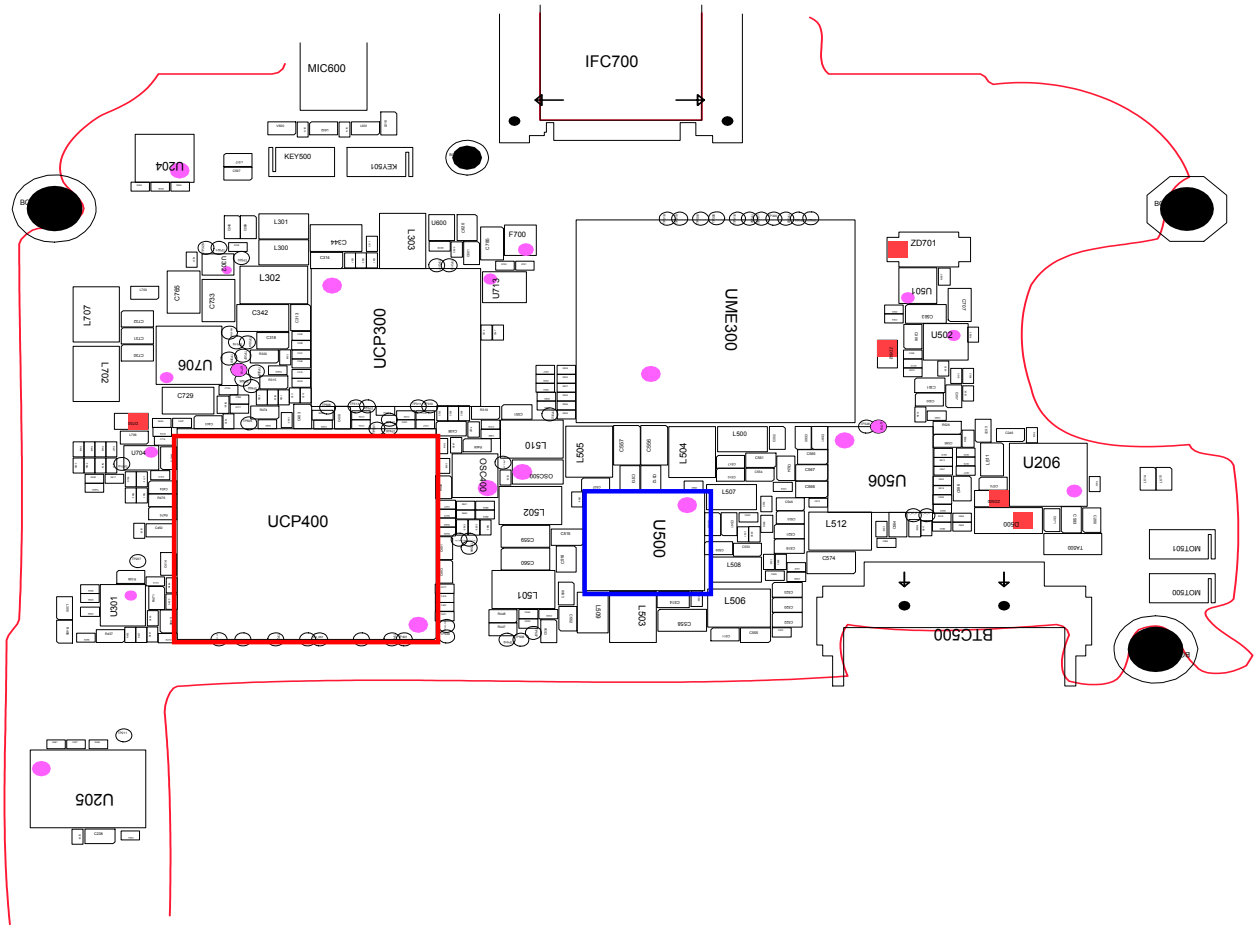




6 Axics Sensor (GYRO,ACCEL)



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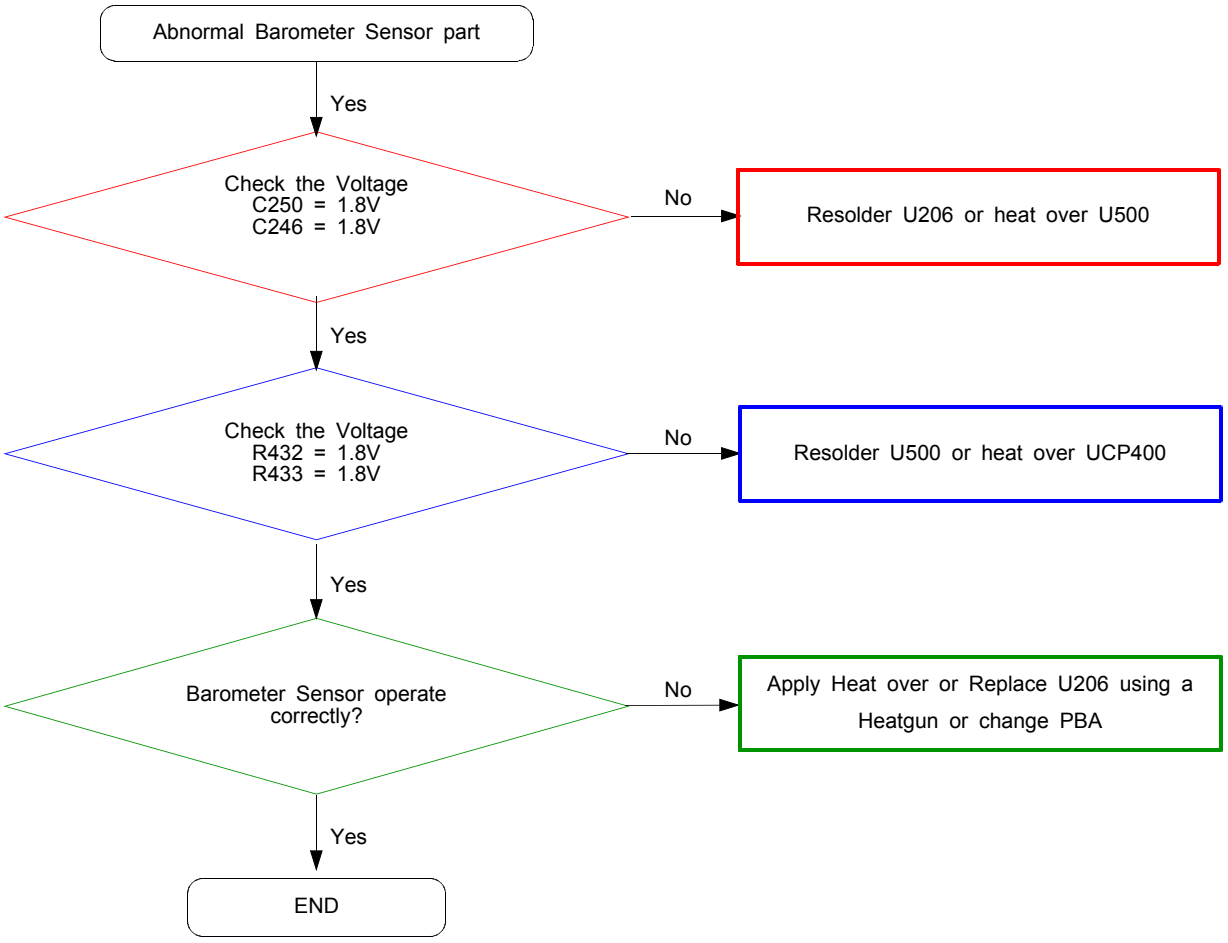
3. Barometer Sensor



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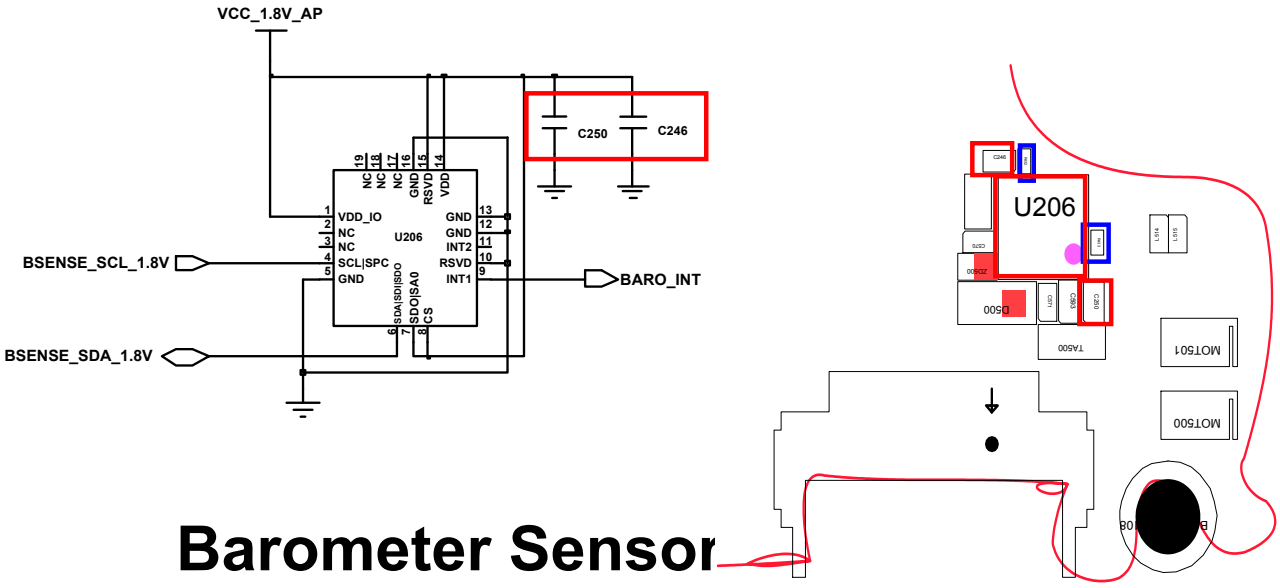
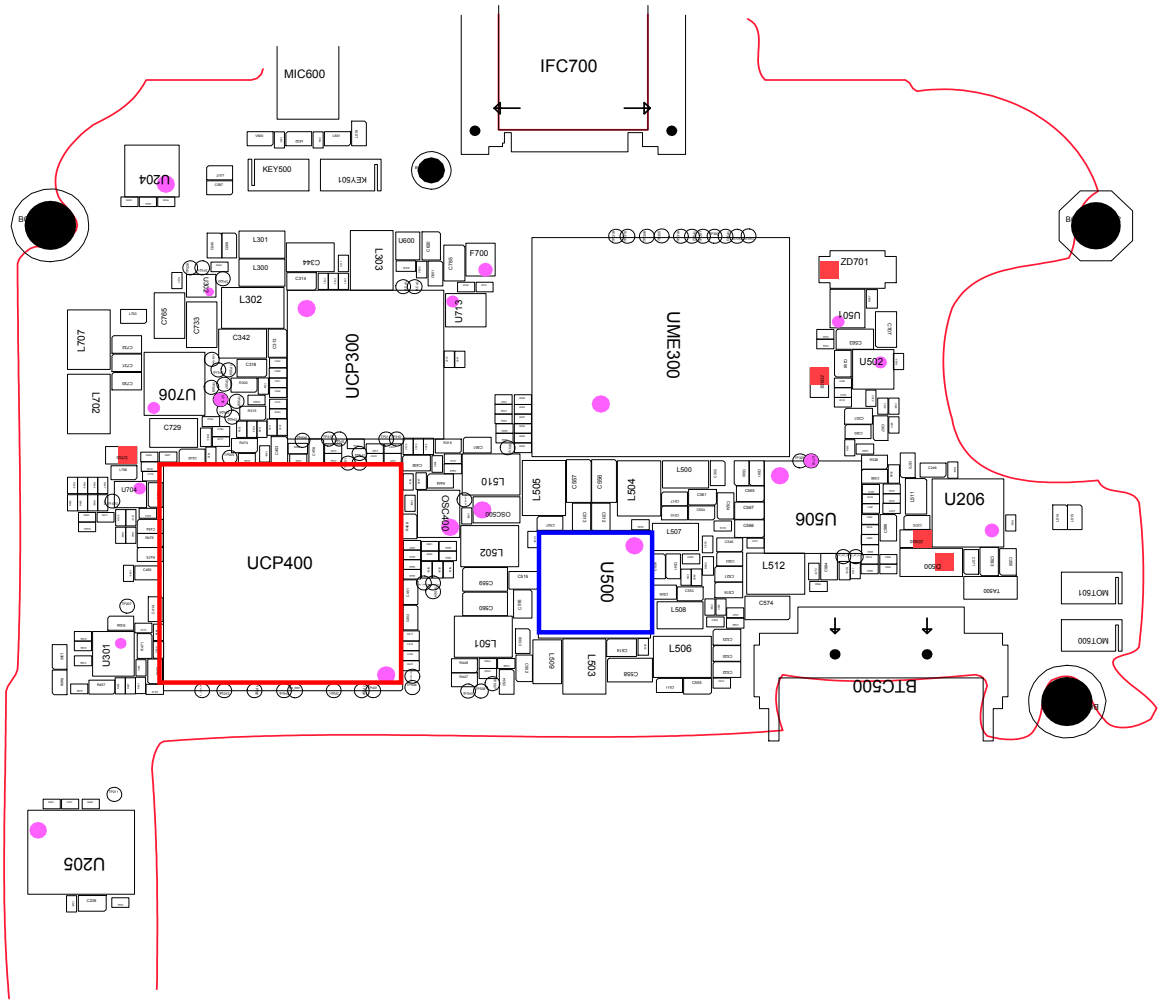


Barometer Sensor



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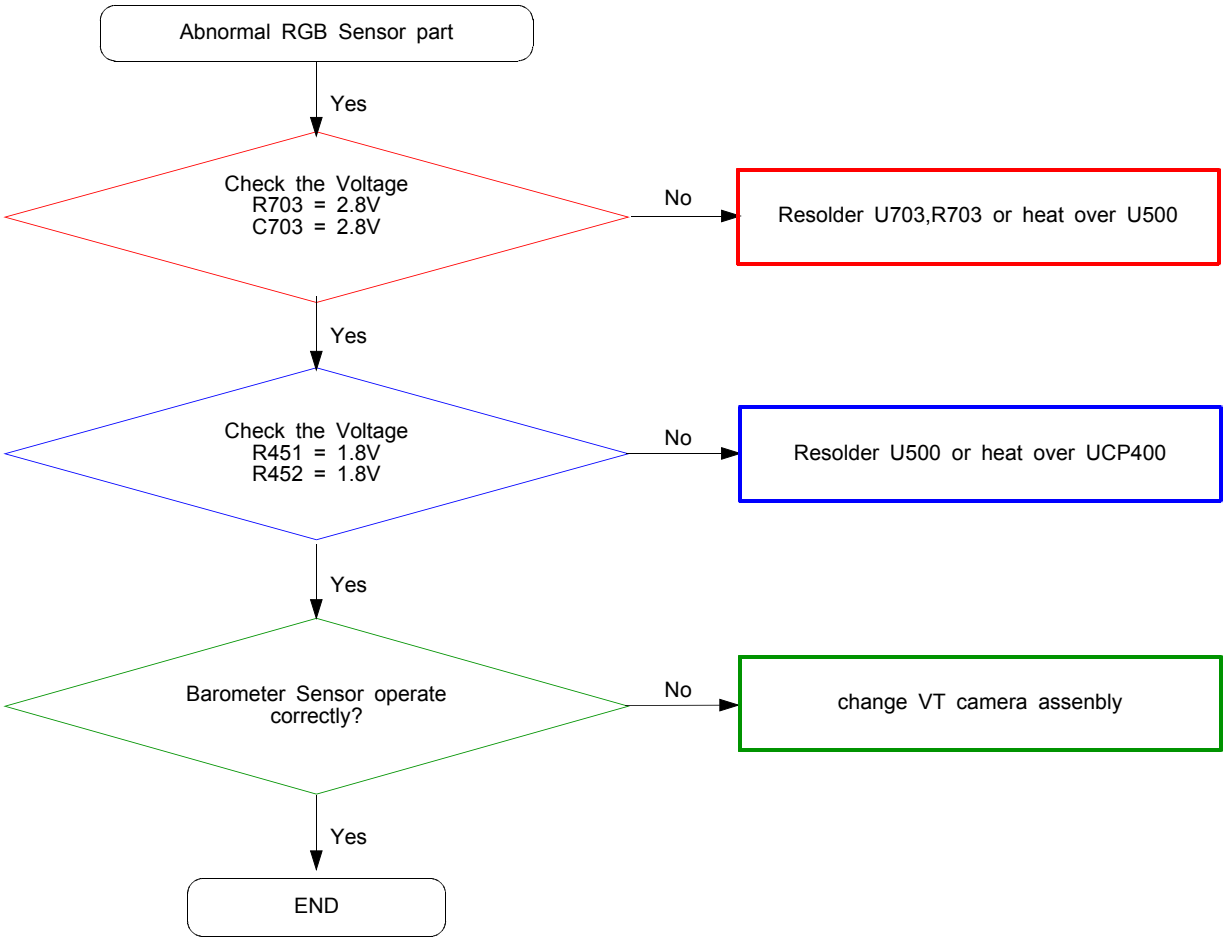
4. RGB Sensor



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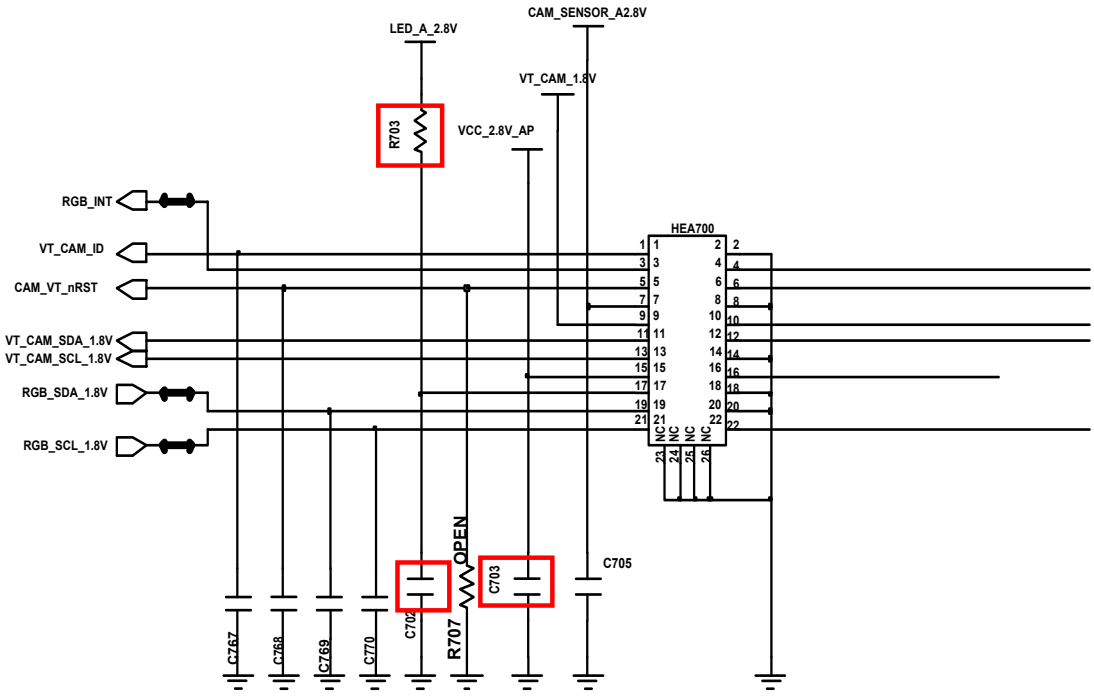

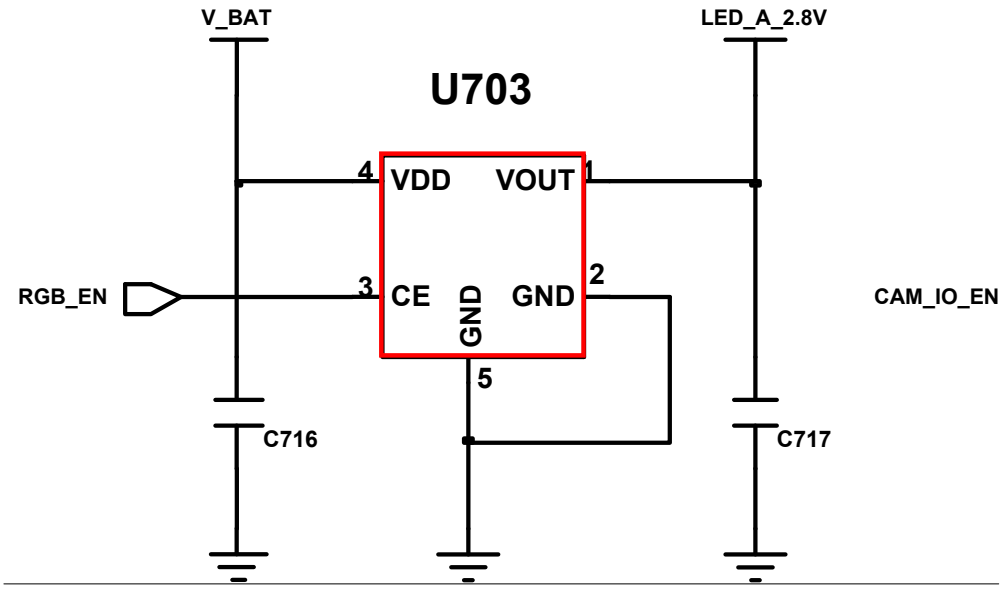

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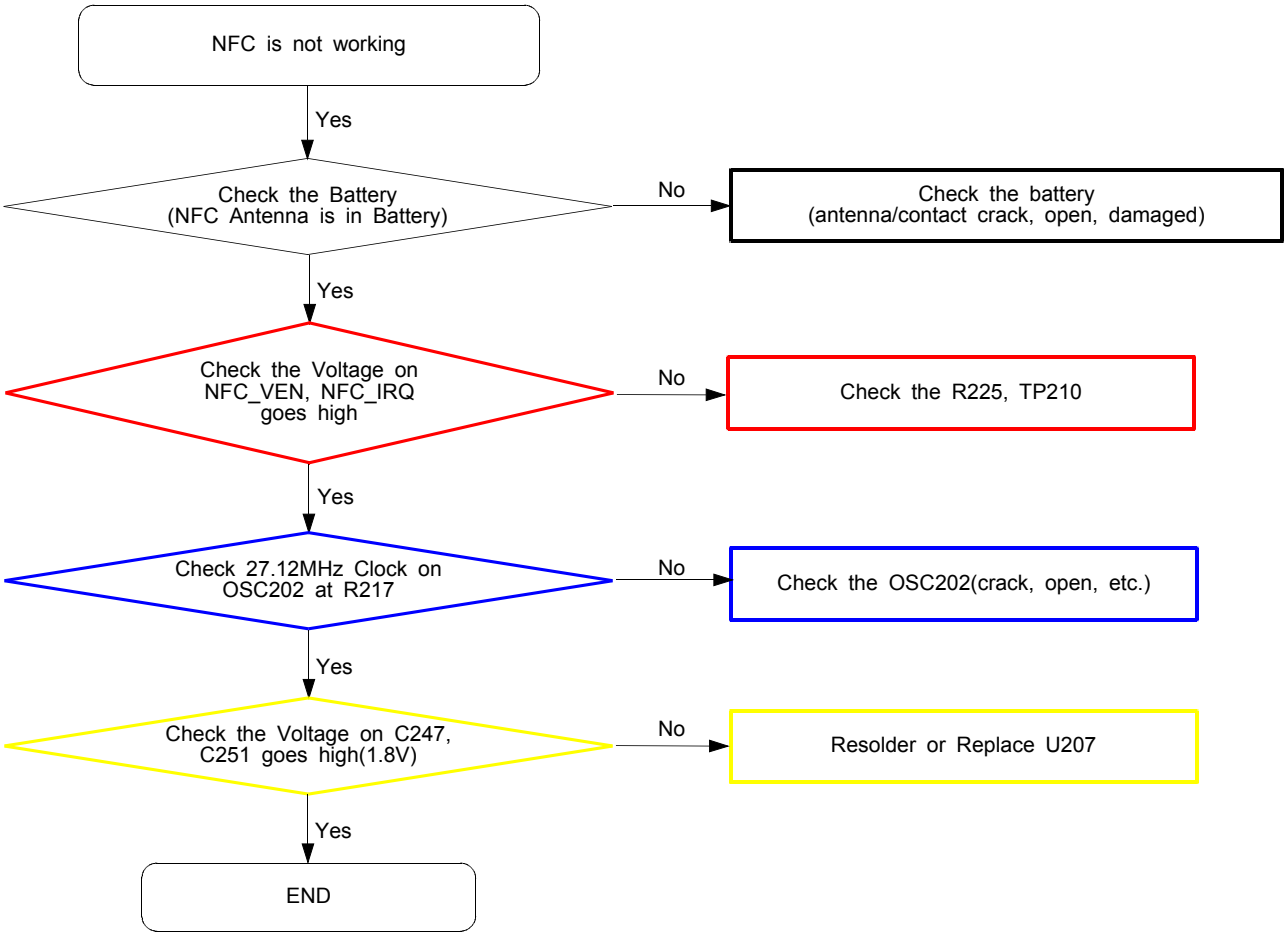
8-3-13. NFC



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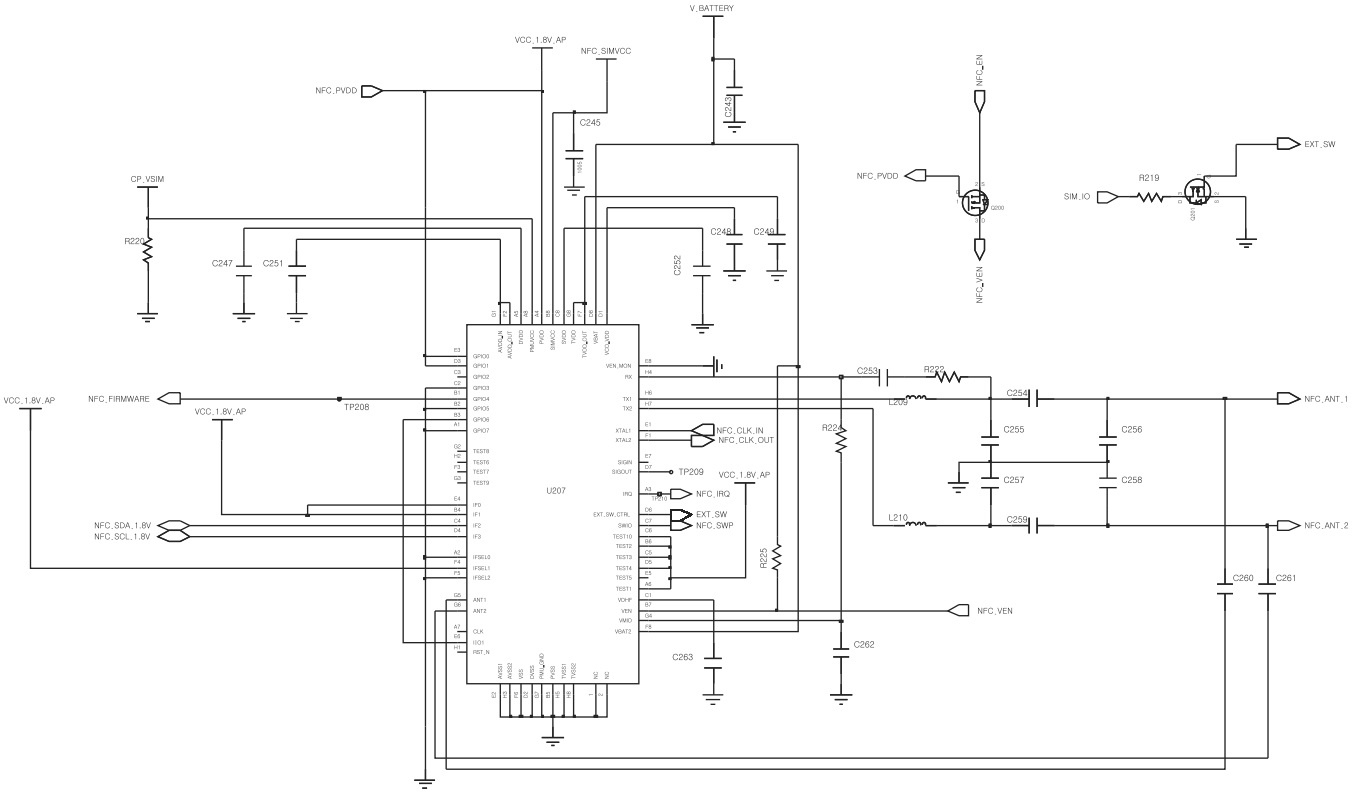

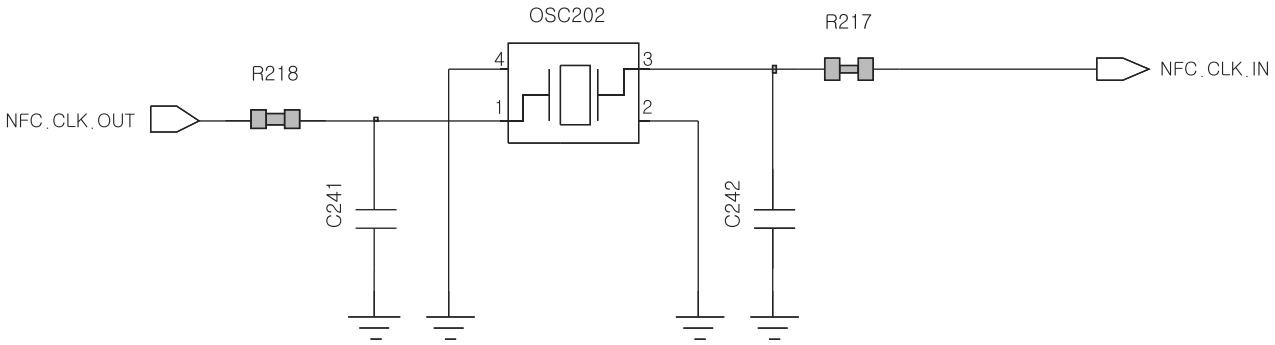

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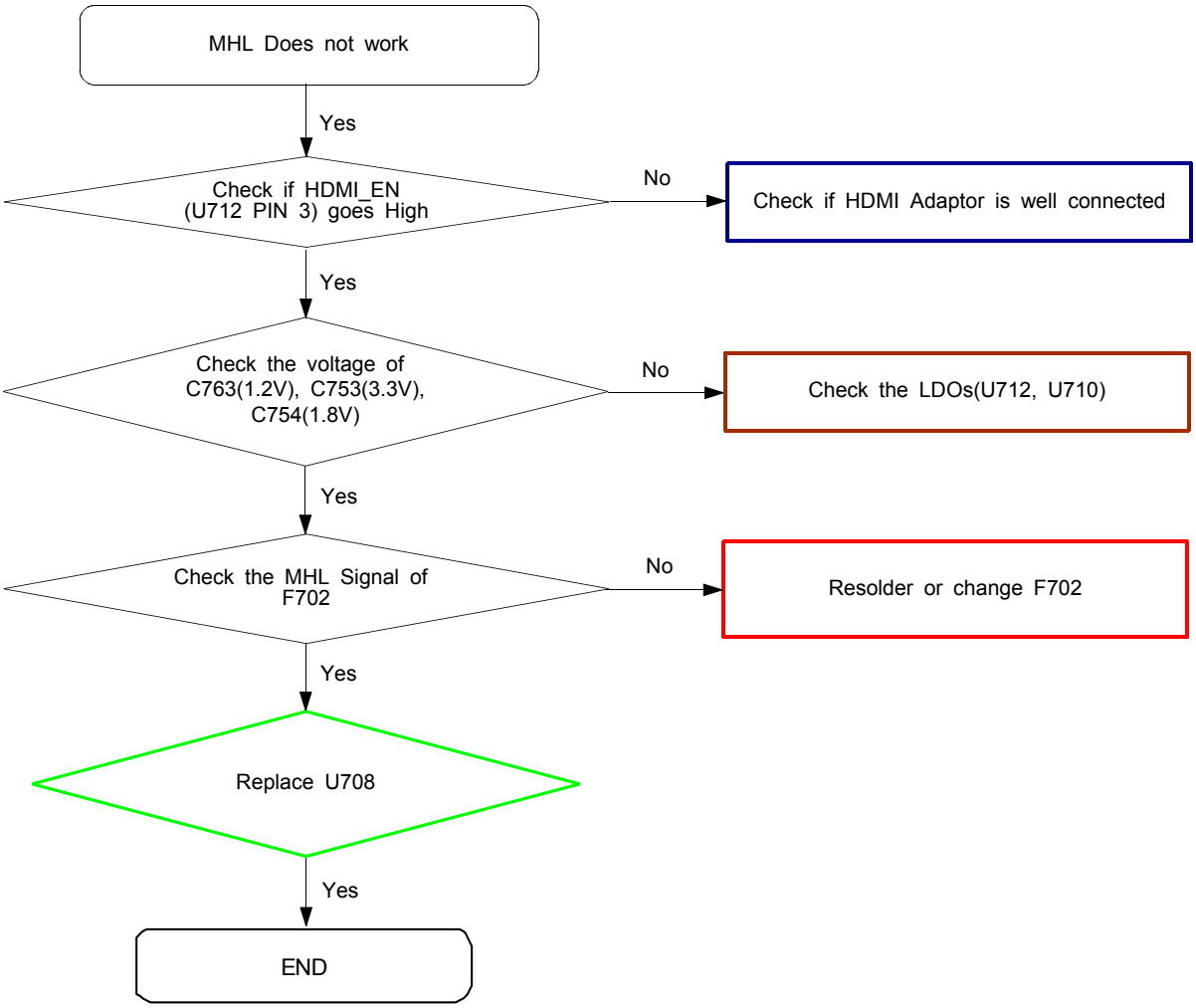
8-3-14. MHL



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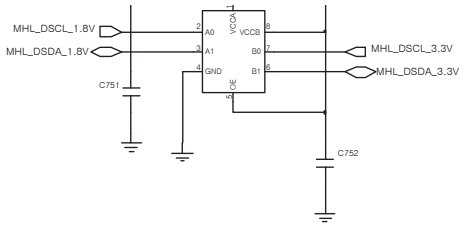

)MMON_FILTER
(Near I/F CON.)

MHL PART

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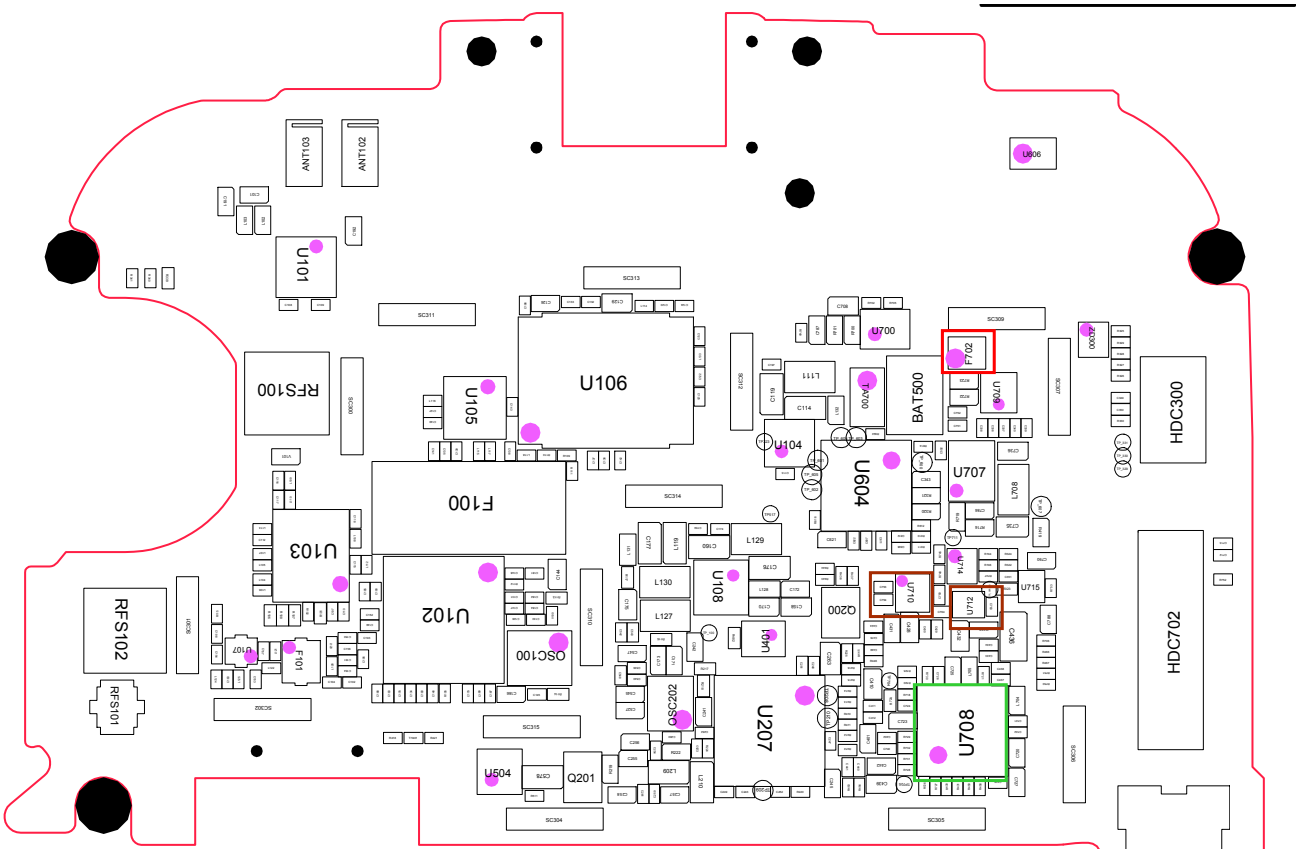

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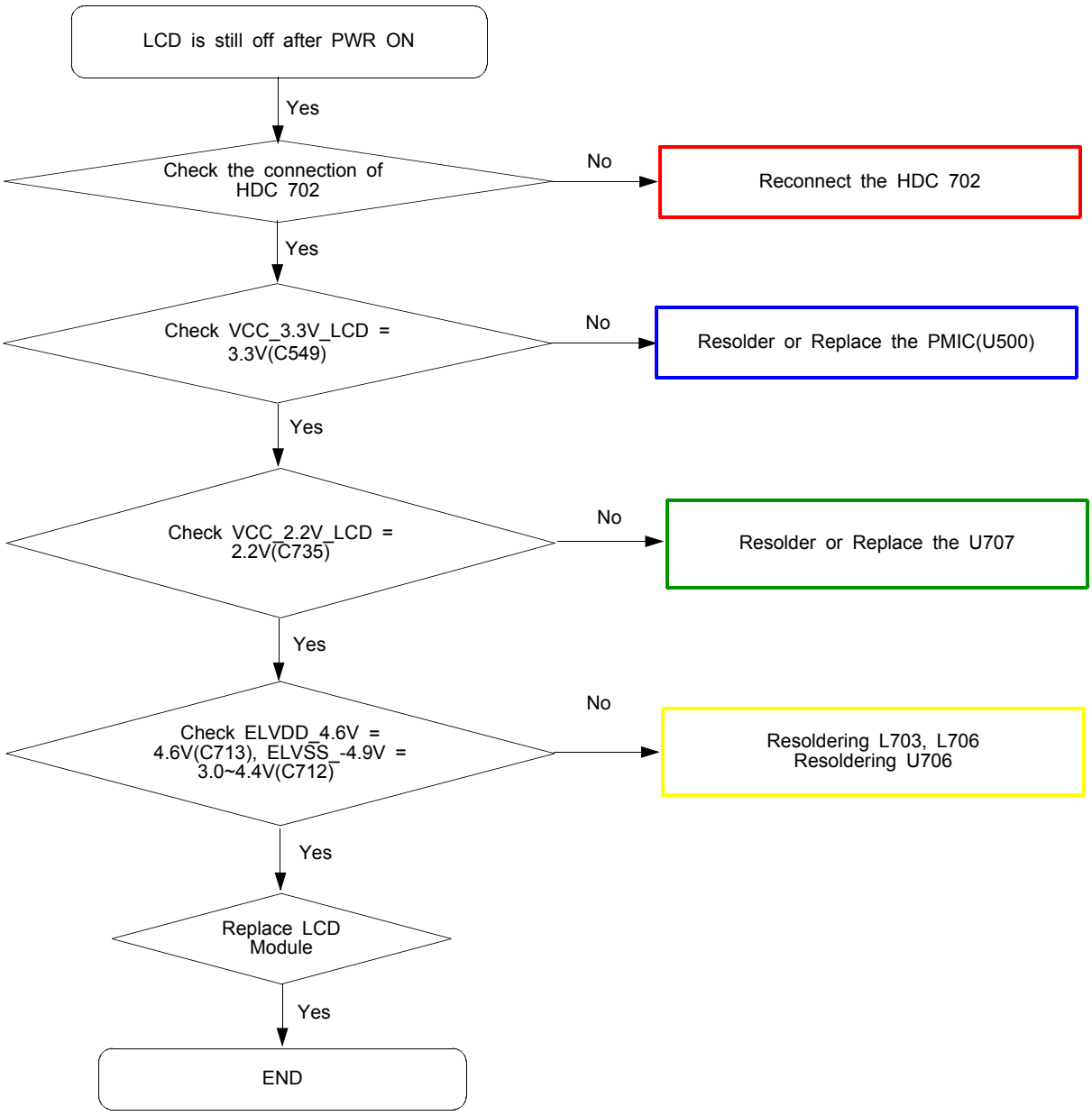
8-3-15. LCD



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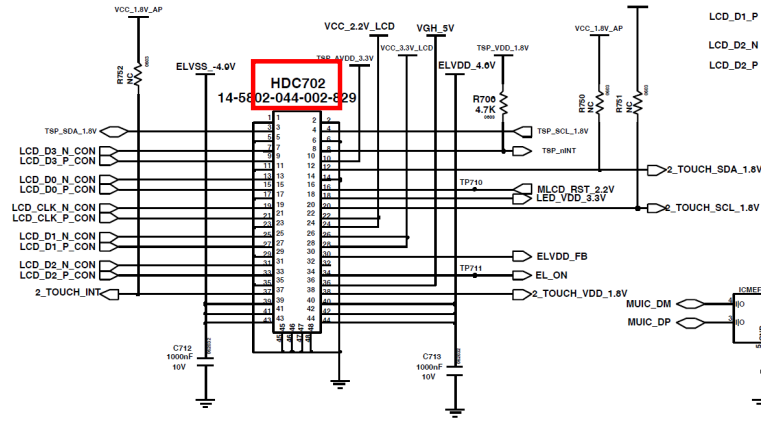

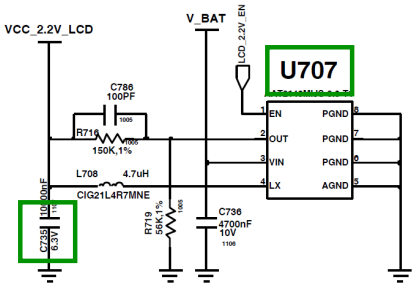

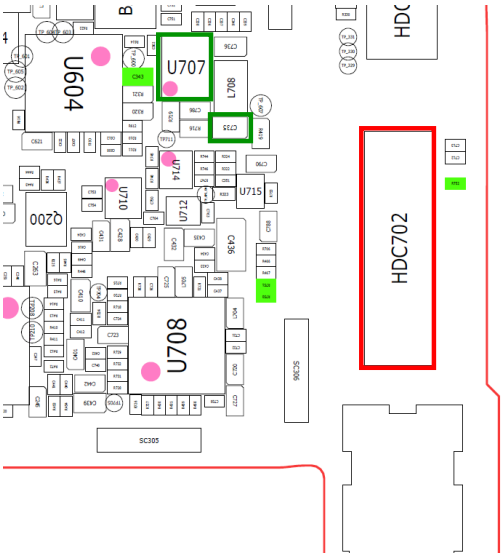

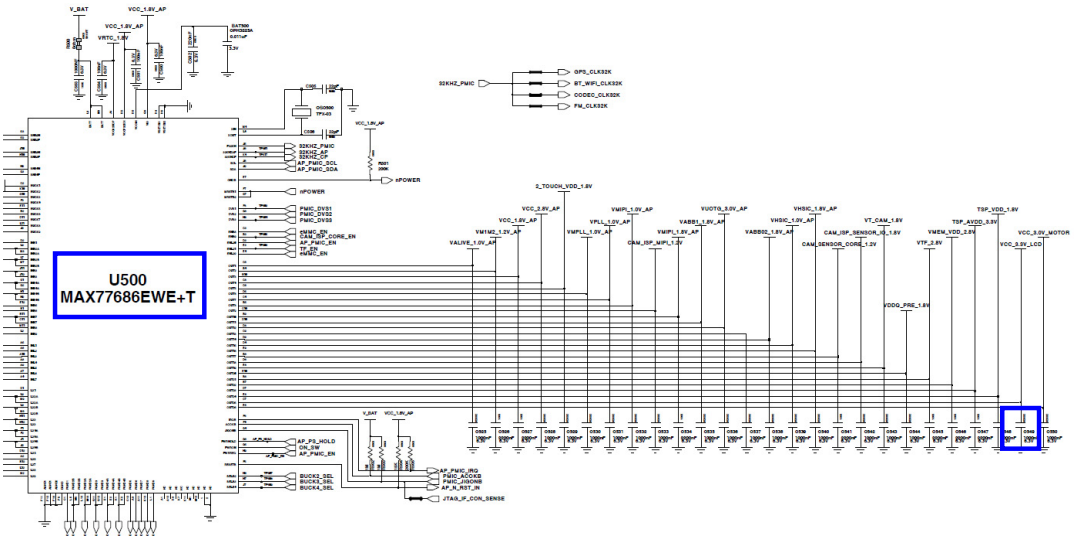

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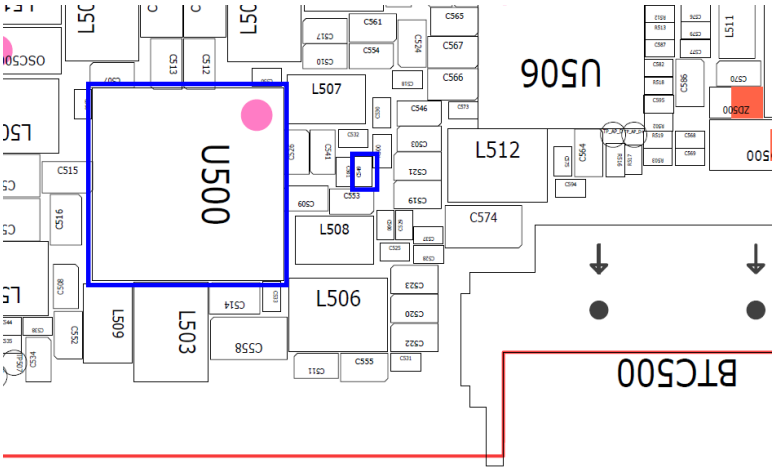

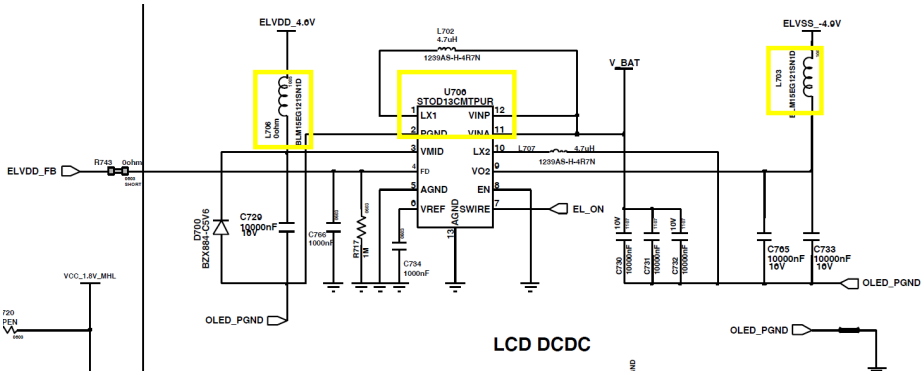

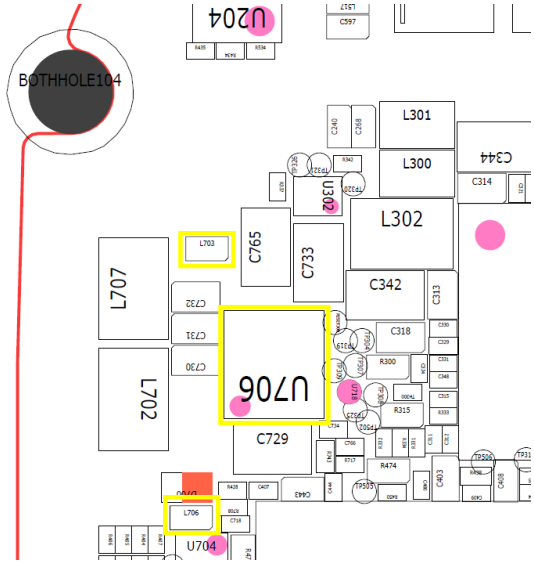

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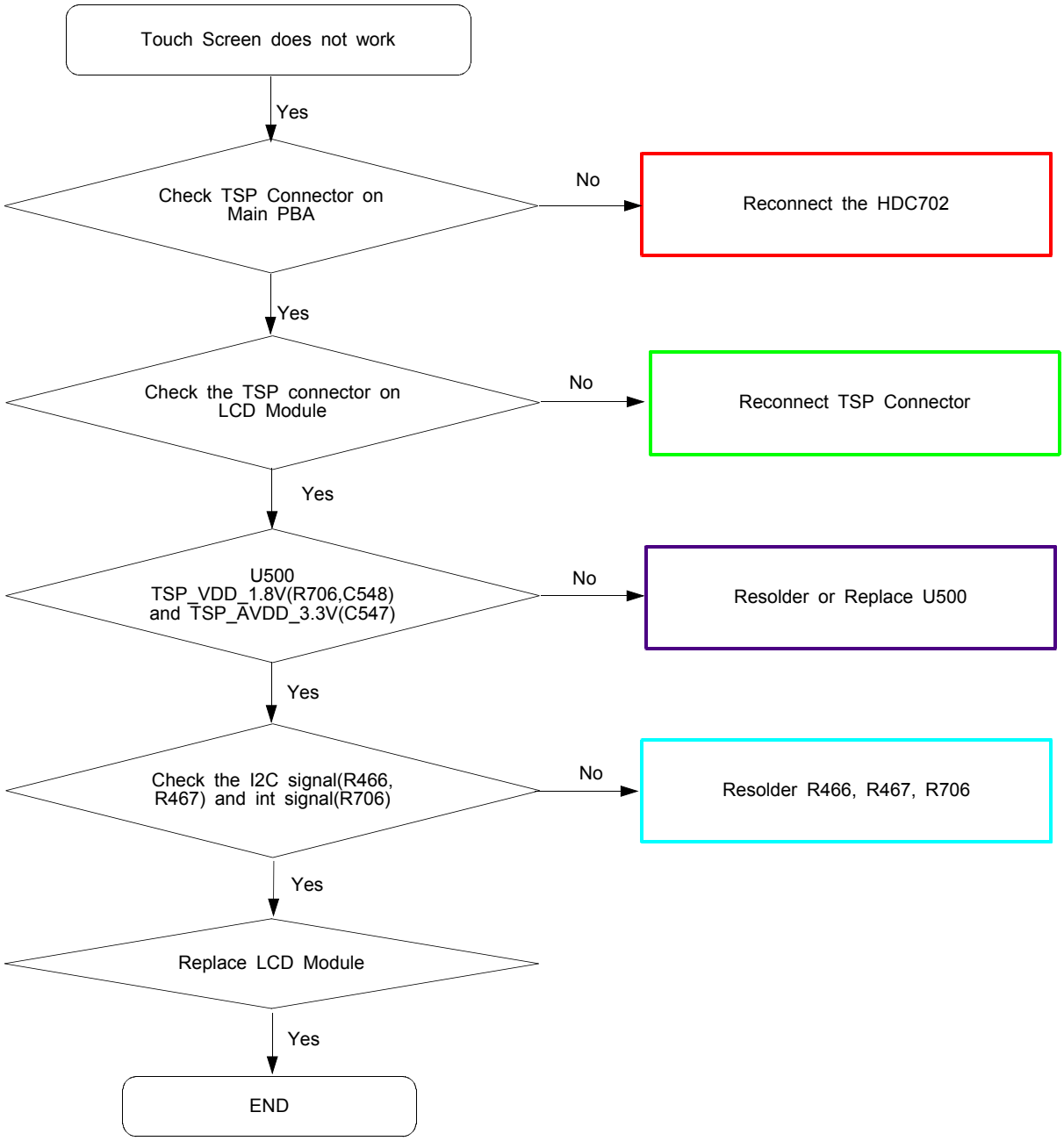
8-3-16. TSP



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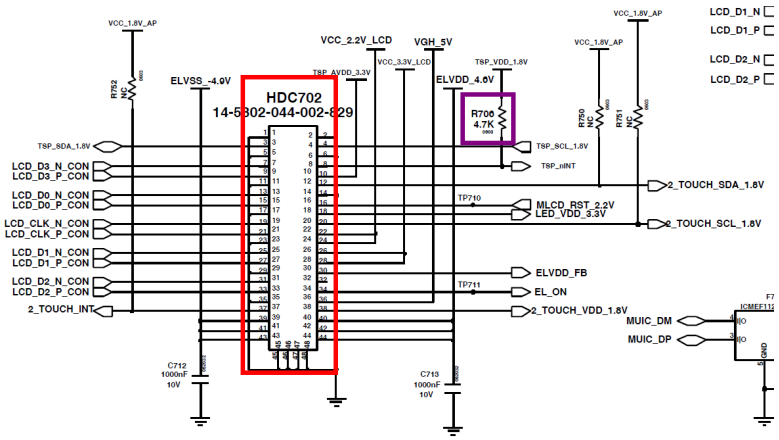

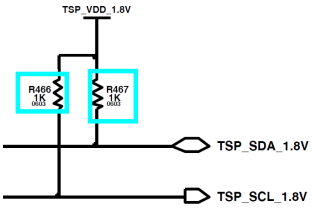

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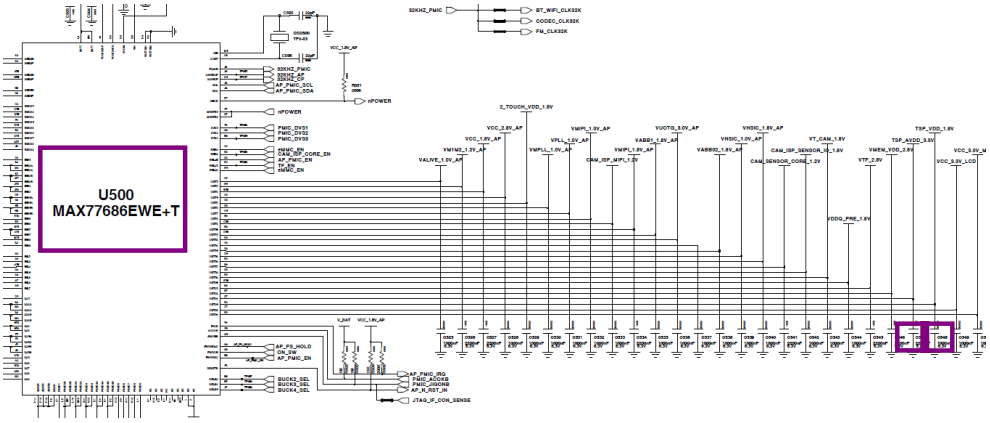

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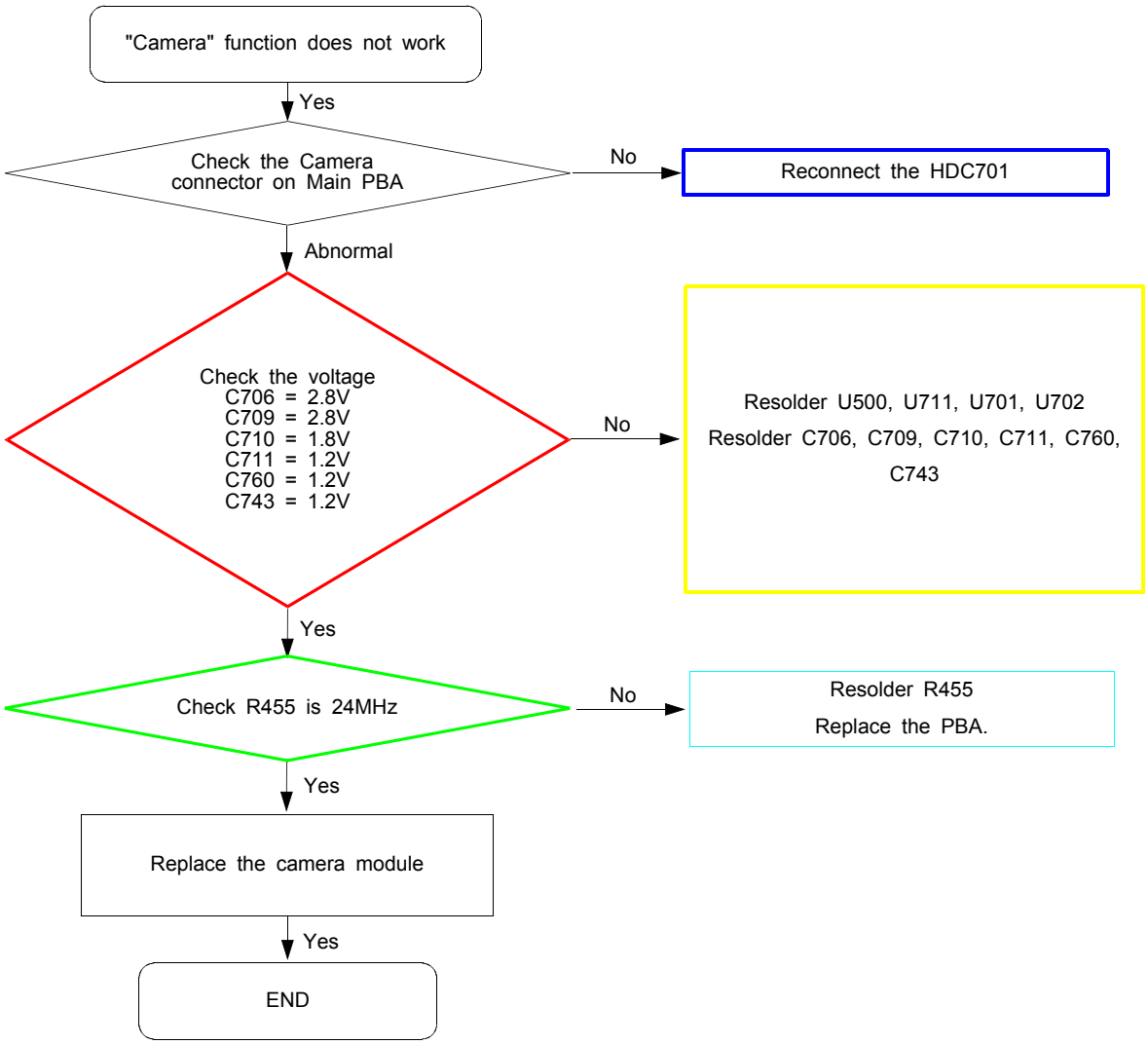
8-3-17. 8M CAM



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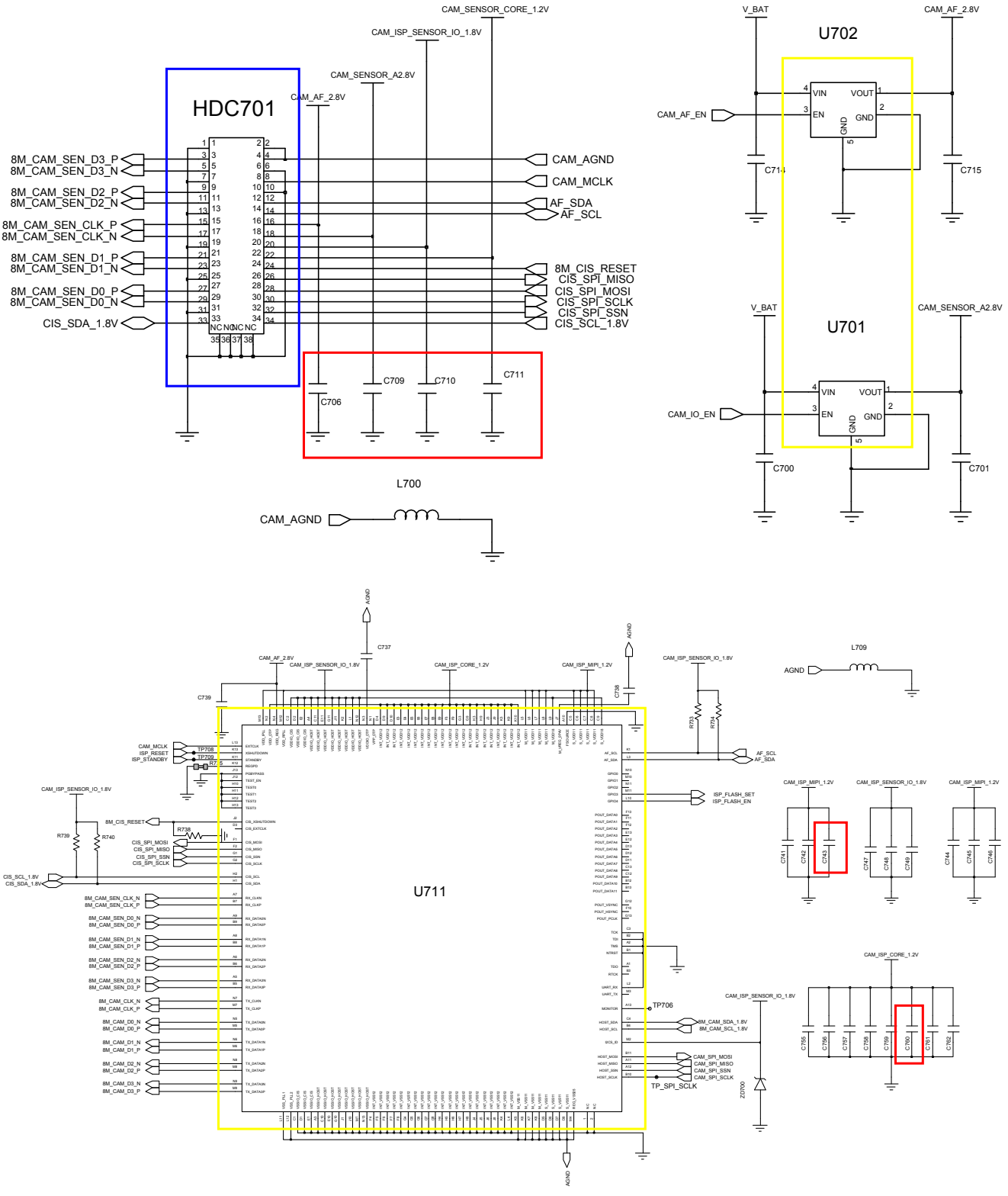

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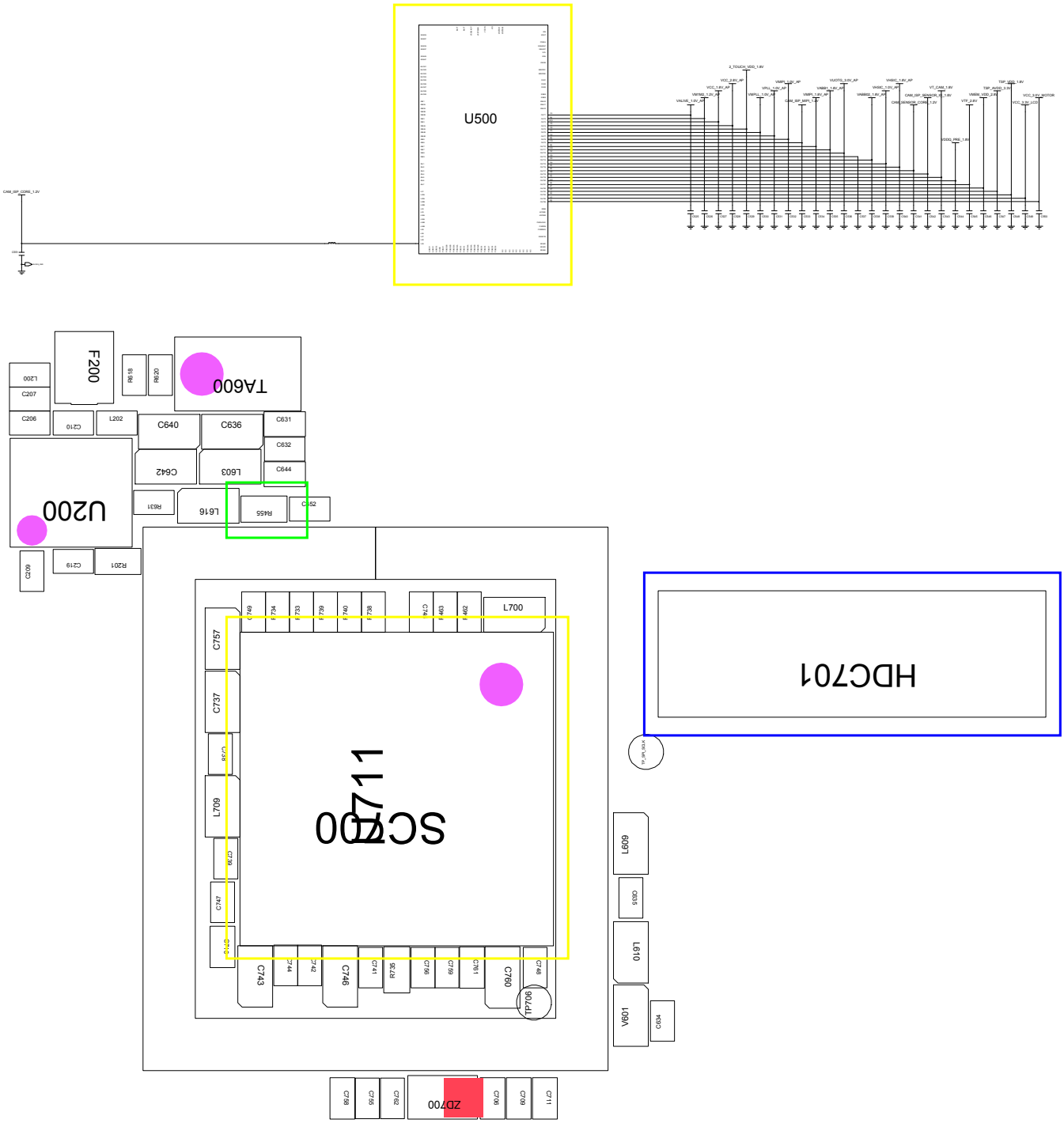

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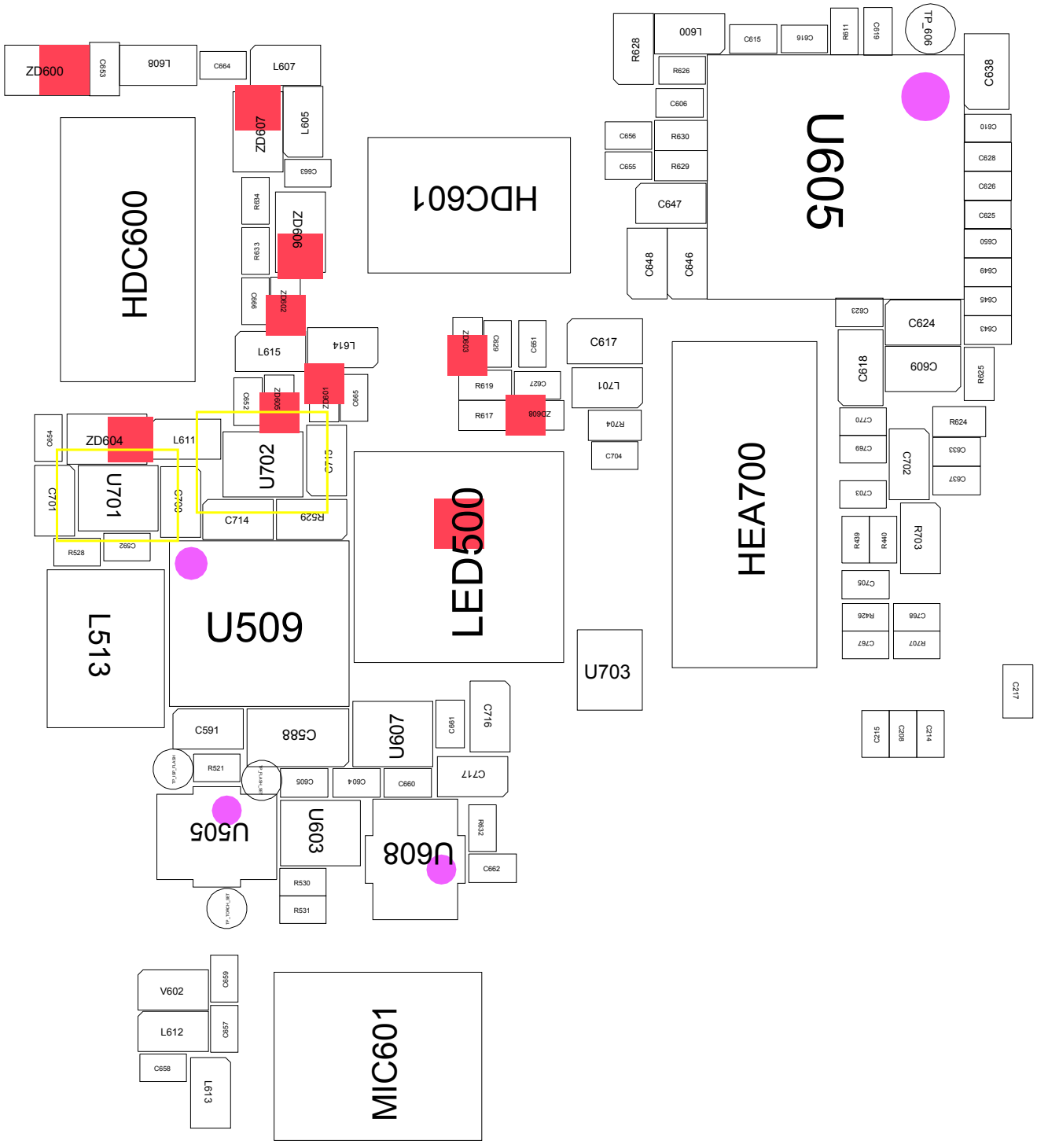

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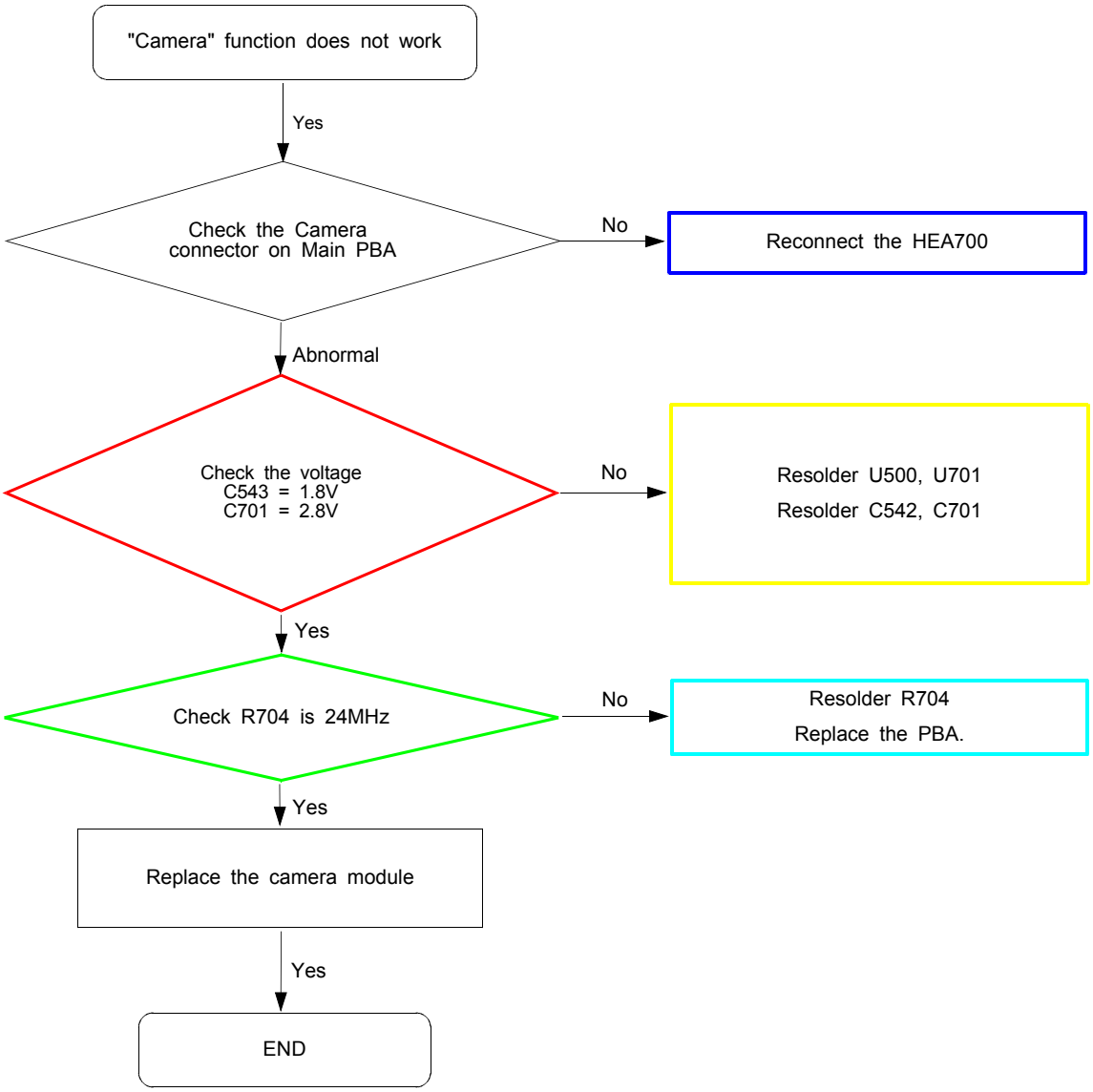
8-3-18. 1.9M CAM



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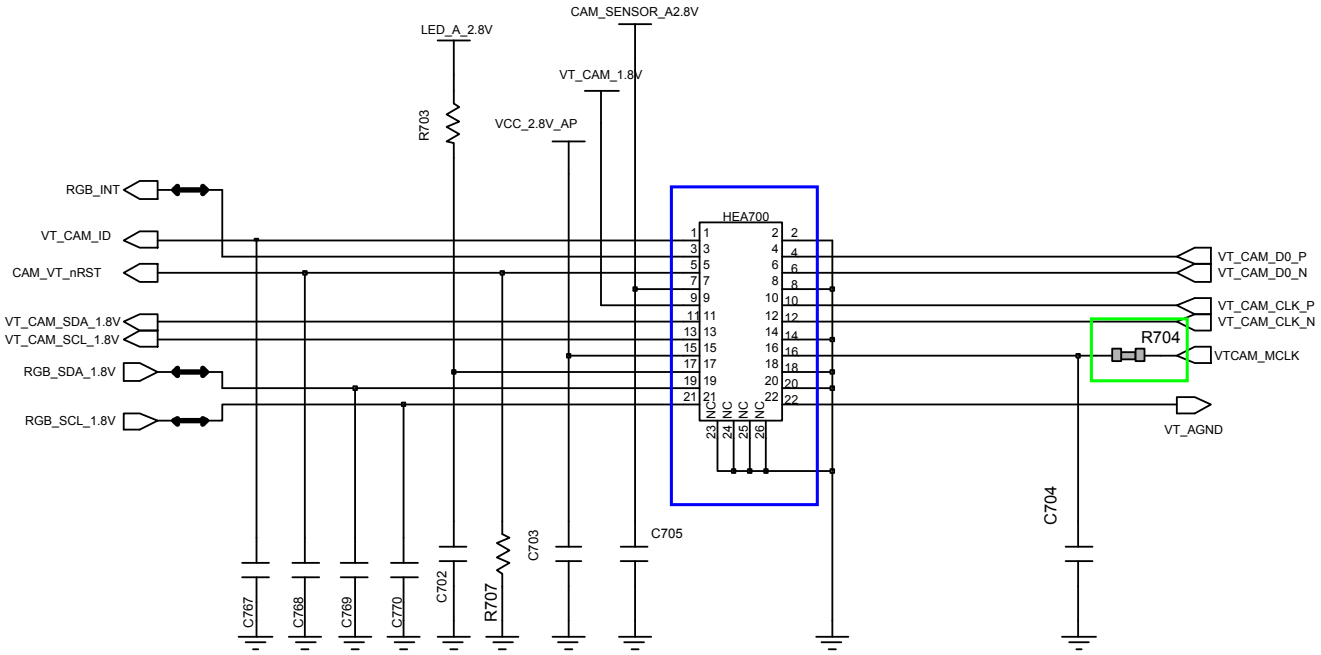

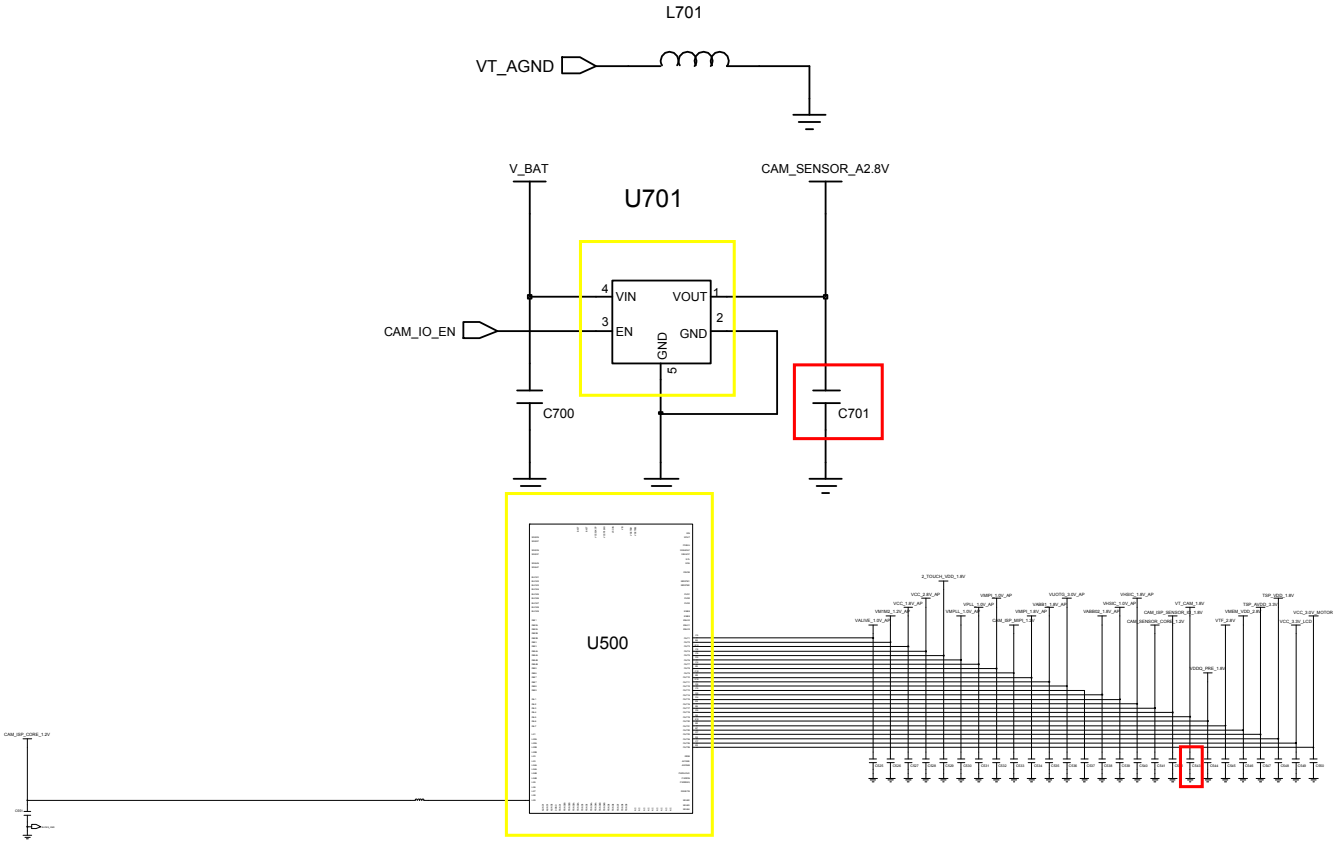

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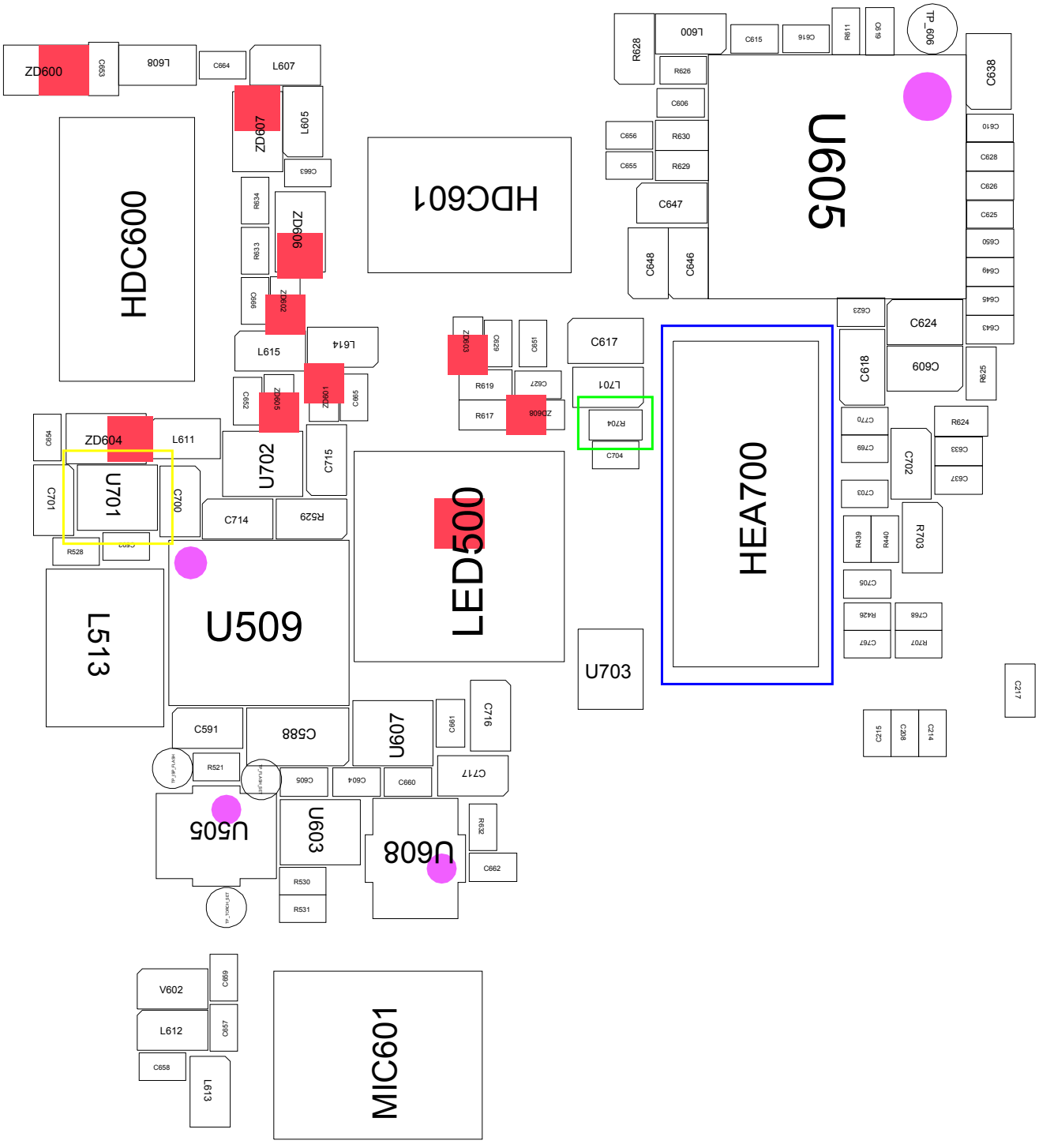

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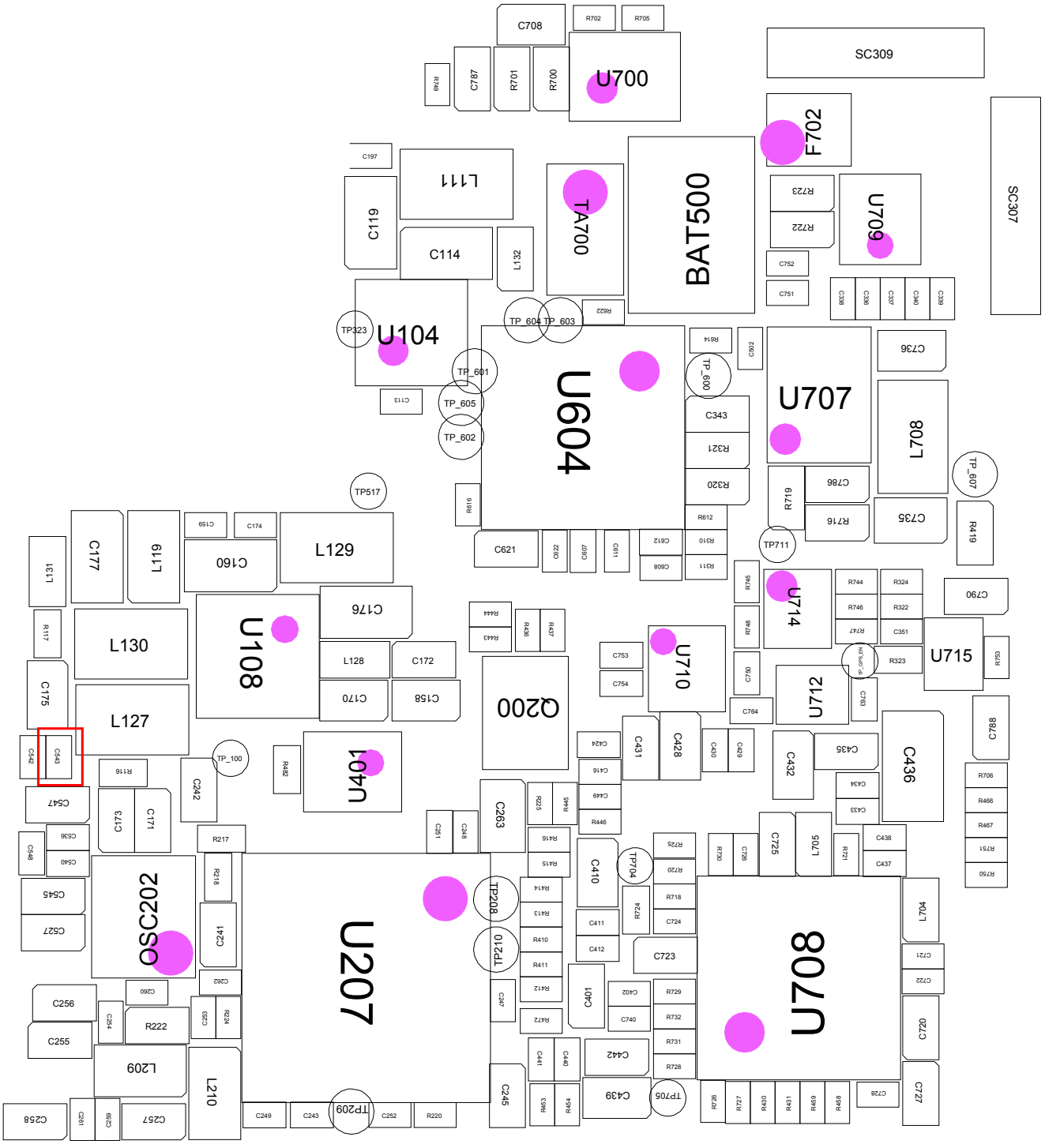

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UCP300
U706
U502
U500
U713
F700
L707
L702
L703
L301
L300
L302
L303
L500
L501
L502
L503
L504
L505
L506
L507
L508
L509
L510
C729
C765
C733
C342
C344
C314
C318
C313
C732
C731
C730
C340
C368
C820
C795
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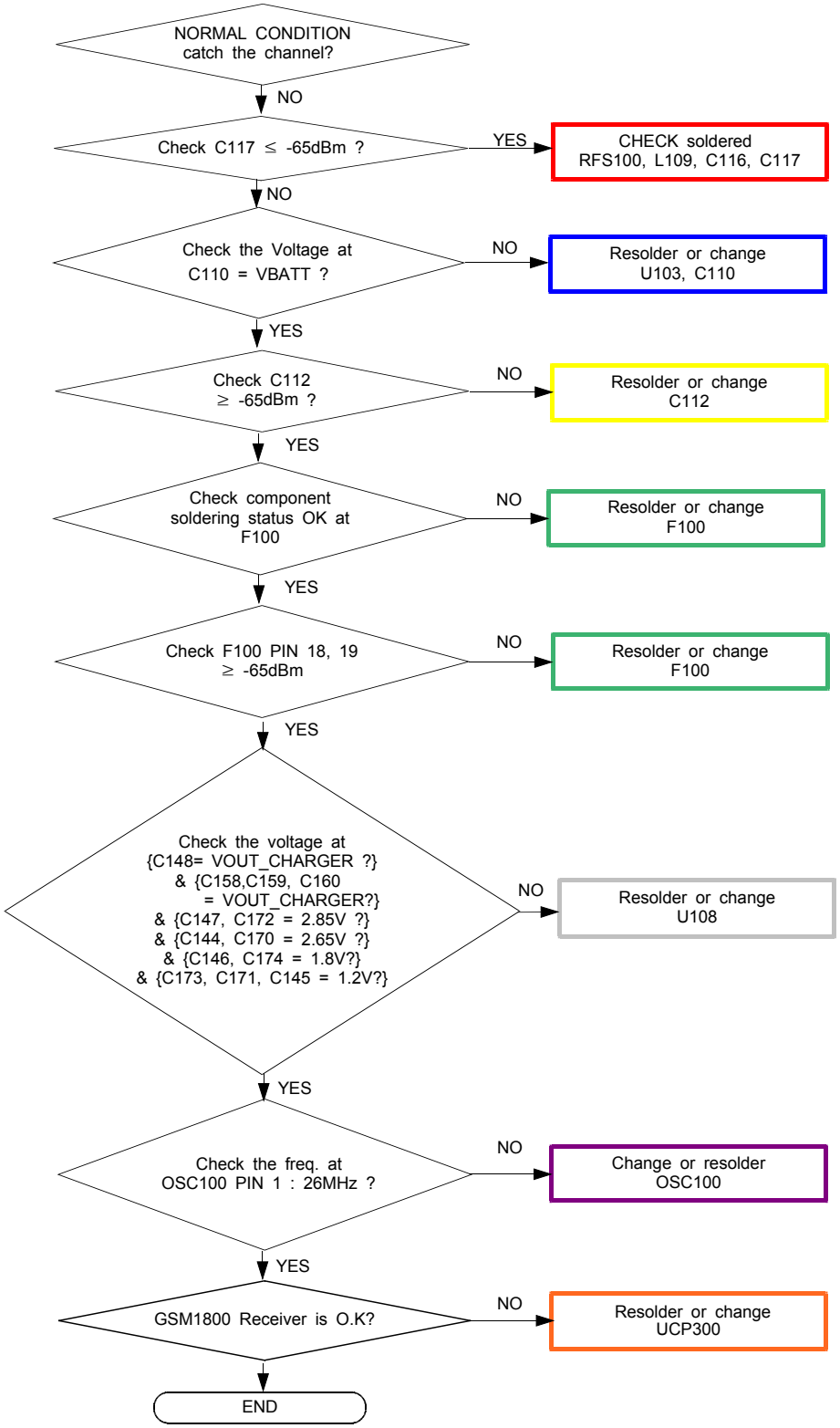
8-3-19. GSM1800 RX



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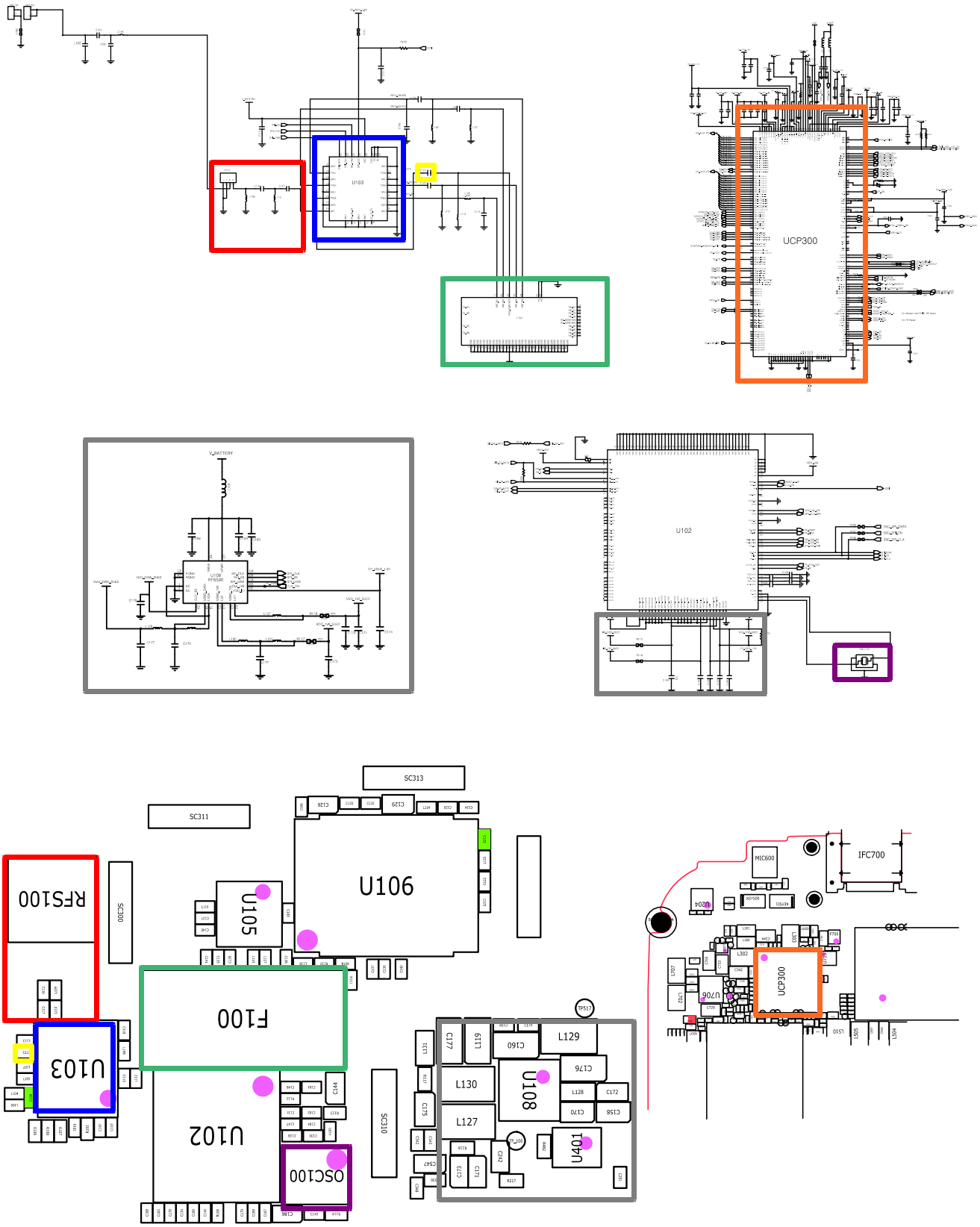

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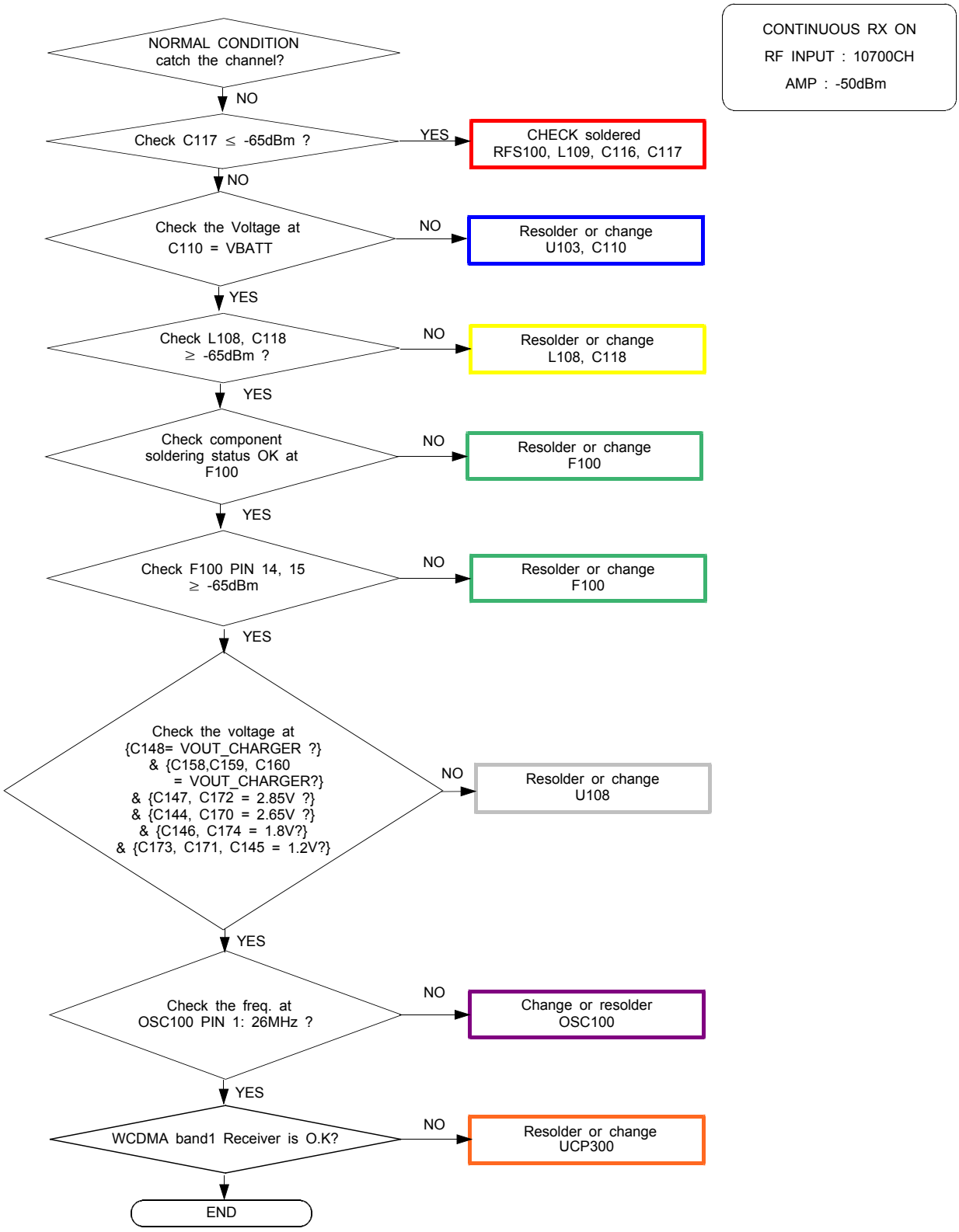
8-3-20. WCDMA Band1 RX


CONTINUOUS RX ON
RF INPUT : 10700CH
AMP : -50dBm
NORMAL CONDITION catch the channel?
NO
Check C117 ≤ -65dBm ?
YES
CHECK soldered RFS100, L109, C116, C117
NO
Check the Voltage at C110 = VBATT
NO
Resolder or change U103, C110
YES
Check L108, C118 ≥ -65dBm ?
NO
Resolder or change L108, C118
YES
Check component soldering status OK at F100
NO
Resolder or change F100
YES
Check F100 PIN 14, 15 ≥ -65dBm
NO
Resolder or change F100
YES
Check the voltage at {C148= VOUT_CHARGER ?} & {C158,C159, C160 = VOUT_CHARGER?} & {C147, C172 = 2.85V ?} & {C144, C170 = 2.65V ?} & {C146, C174 = 1.8V?} & {C173, C171, C145 = 1.2V?}
NO
Resolder or change U108
YES
Check the freq. at OSC100 PIN 1: 26MHz ?
NO
Change or resolder OSC100
YES
WCDMA band1 Receiver is O.K?
NO
Resolder or change UCP300
END

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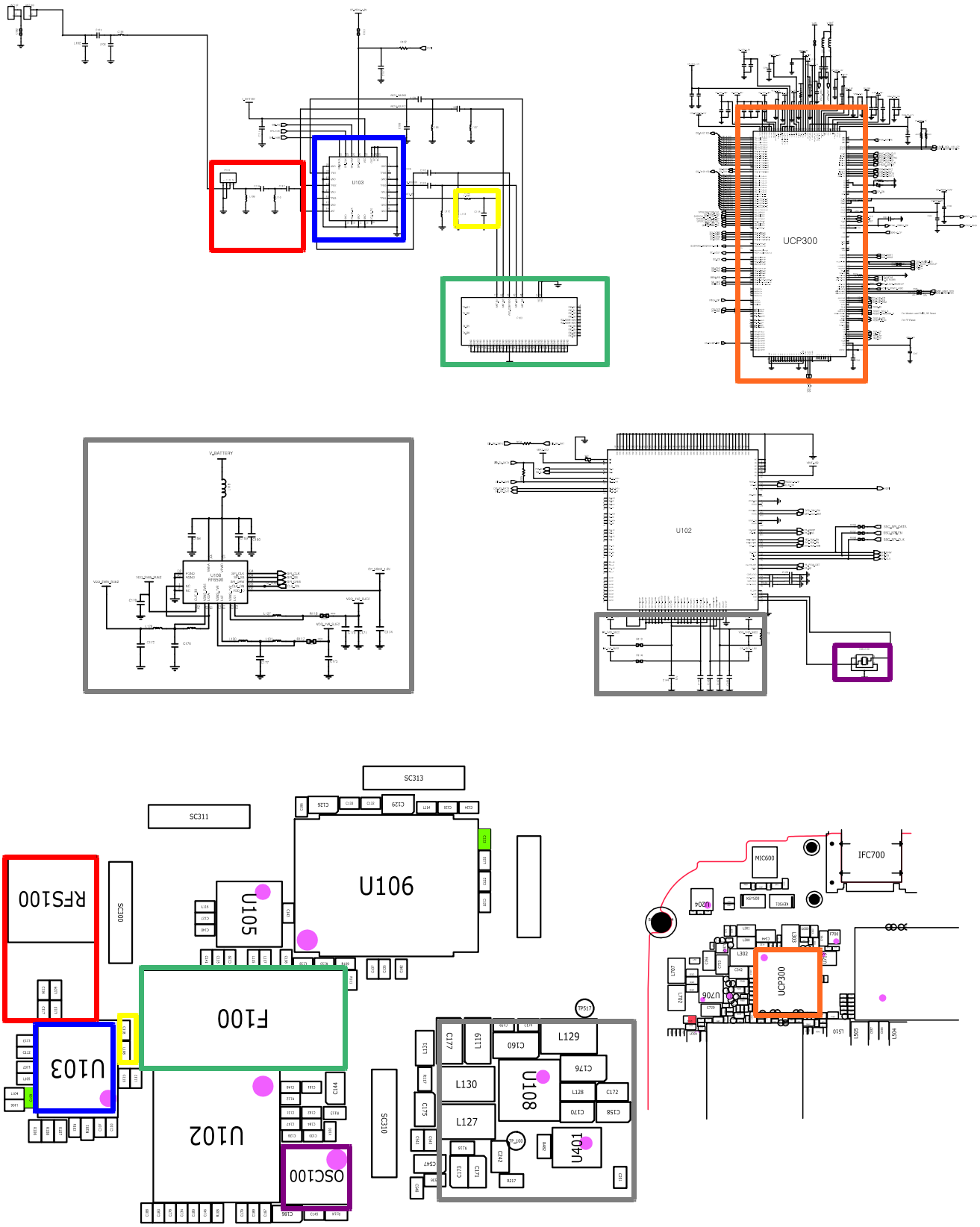

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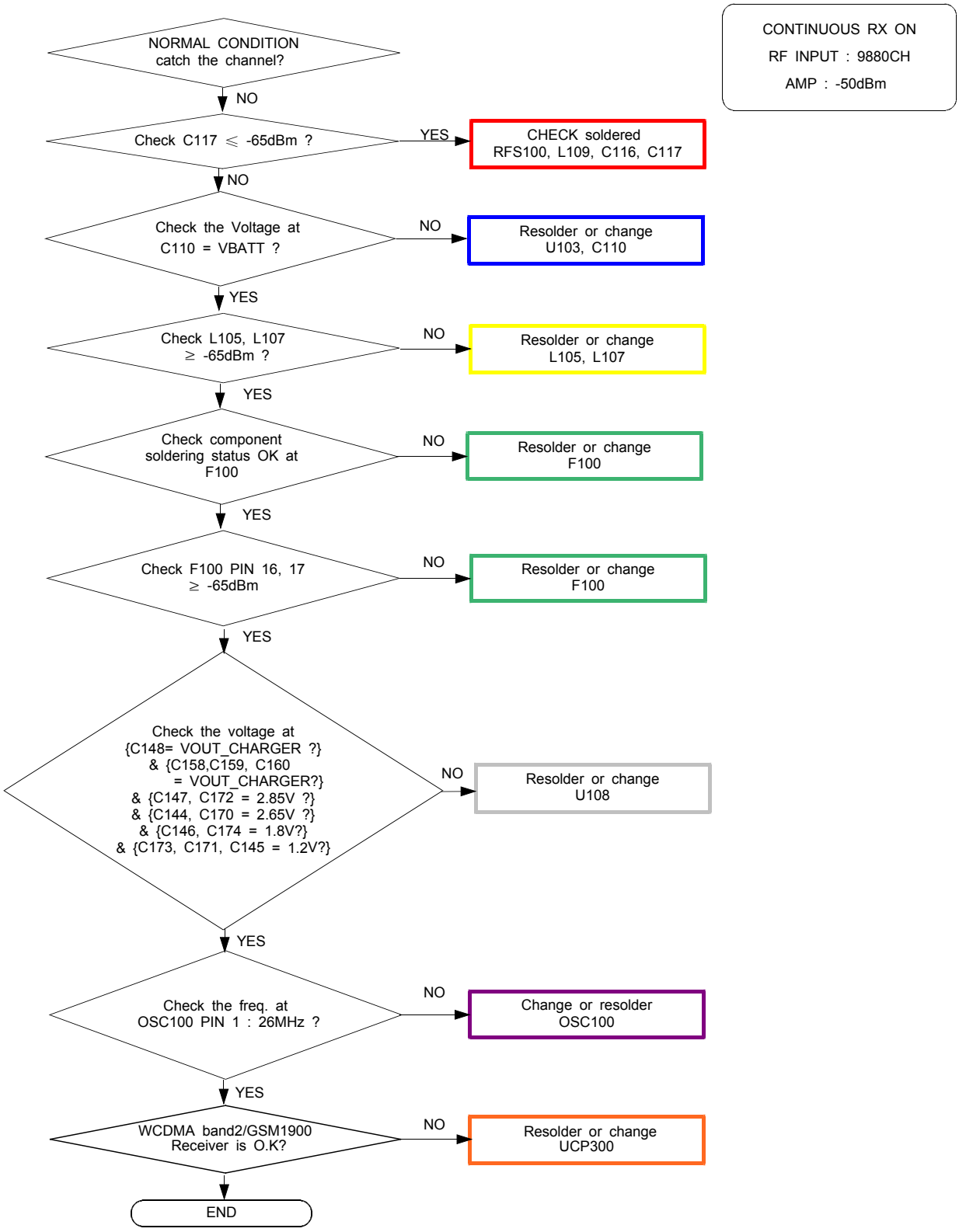
8-3-21. WCDMA Band2 / GSM1900 RX


CONTINUOUS RX ON
RF INPUT : 9880CH
AMP : -50dBm
NORMAL CONDITION catch the channel?
NO
Check C117 ≤ -65dBm ?
YES
CHECK soldered RFS100, L109, C116, C117
NO
Check the Voltage at C110 = VBATT ?
NO
Resolder or change U103, C110
YES
Check L105, L107 ≥ -65dBm ?
NO
Resolder or change L105, L107
YES
Check component soldering status OK at F100
NO
Resolder or change F100
YES
Check F100 PIN 16, 17 ≥ -65dBm
NO
Resolder or change F100
YES
Check the voltage at {C148= VOUT_CHARGER ?} & {C158,C159, C160 = VOUT_CHARGER?} & {C147, C172 = 2.85V ?} & {C144, C170 = 2.65V ?} & {C146, C174 = 1.8V?} & {C173, C171, C145 = 1.2V?}
NO
Resolder or change U108
YES
Check the freq. at OSC100 PIN 1 : 26MHz ?
NO
Change or resolder OSC100
YES
WCDMA band2/GSM1900 Receiver is O.K?
NO
Resolder or change UCP300
END

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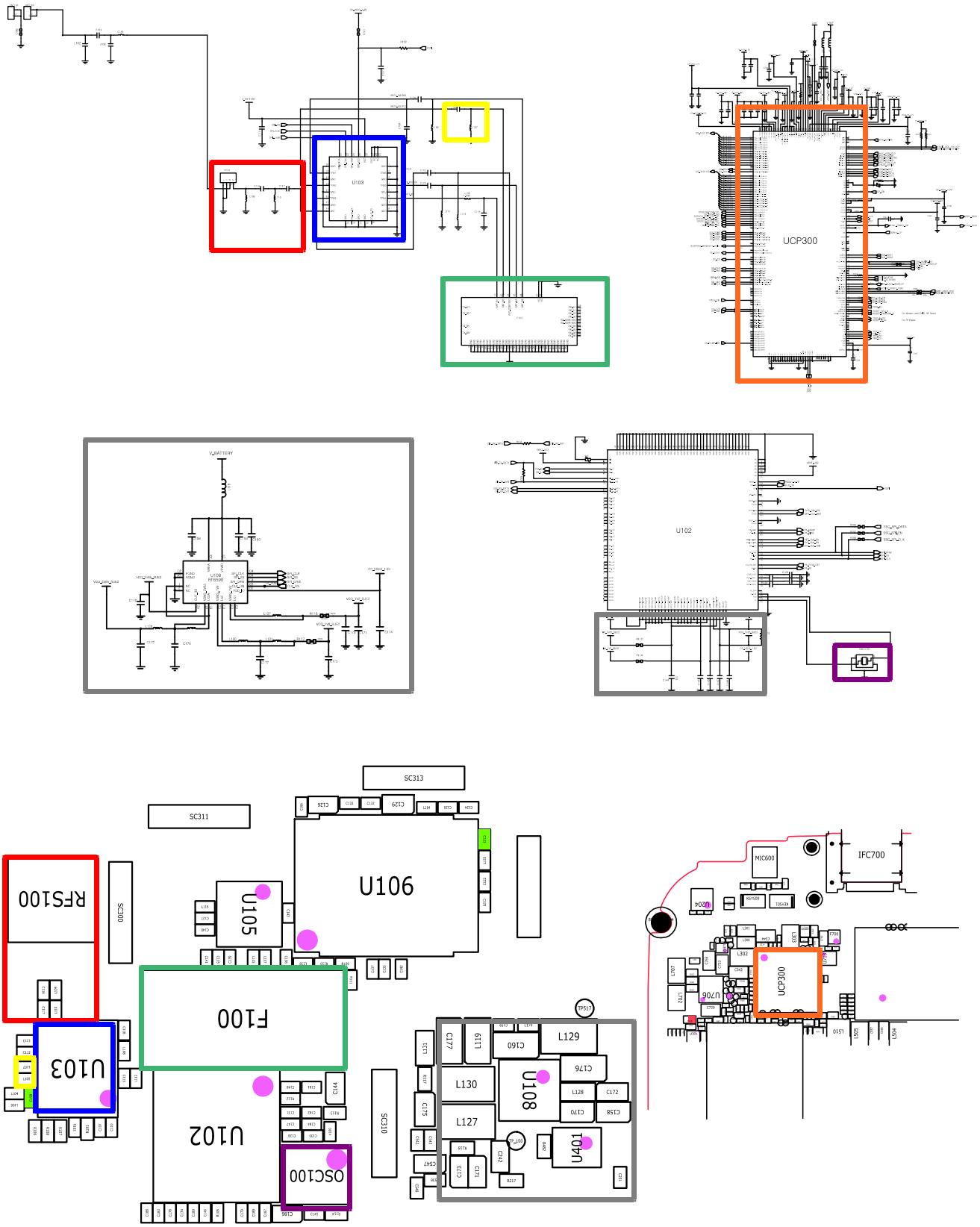

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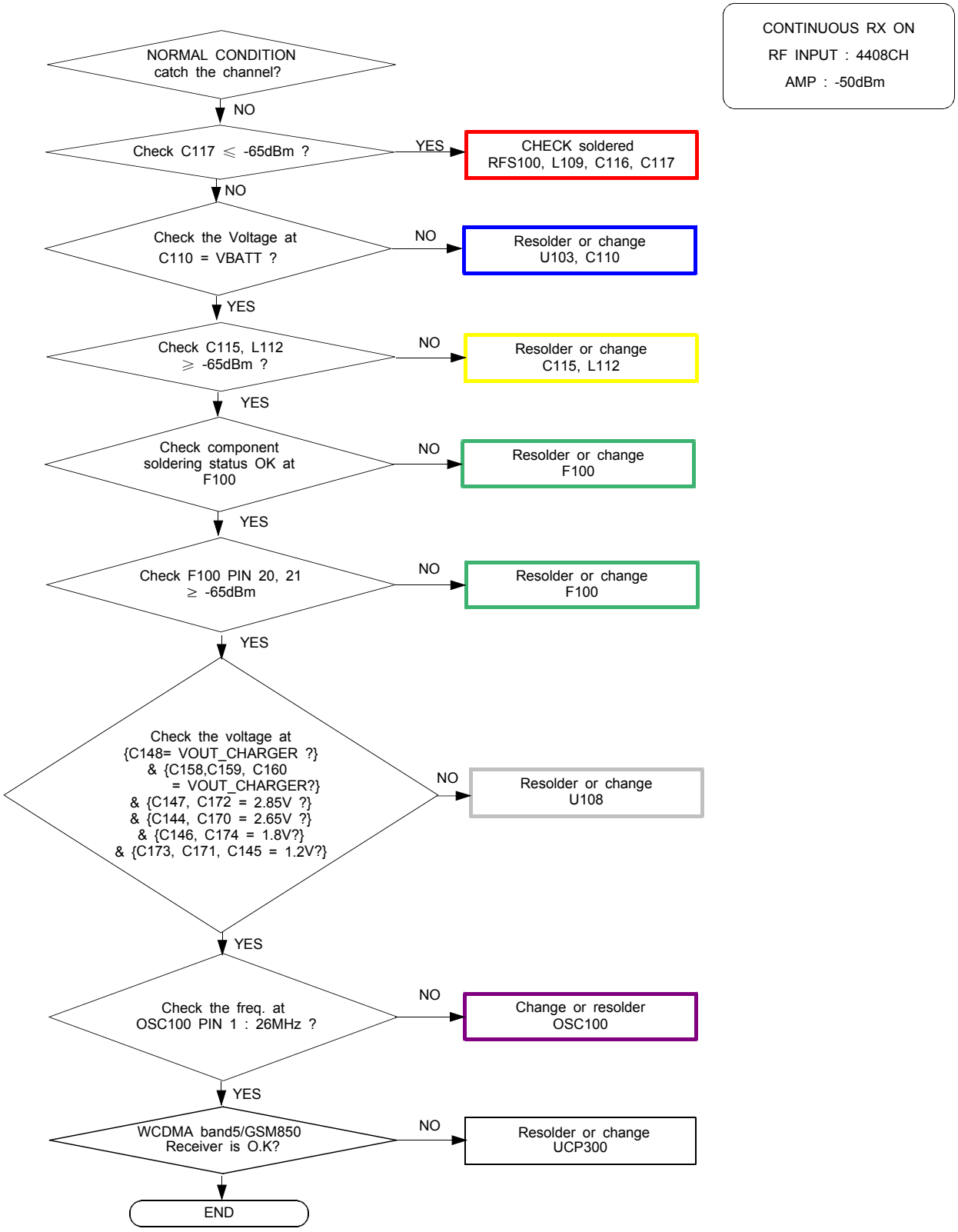
8-3-22. WCDMA Band5 / GSM 850 RX


CONTINUOUS RX ON
RF INPUT : 4408CH
AMP : -50dBm
NORMAL CONDITION catch the channel?
NO
Check C117 ≤ -65dBm ?
YES
CHECK soldered RFS100, L109, C116, C117
NO
Check the Voltage at C110 = VBATT ?
NO
Resolder or change U103, C110
YES
Check C115, L112 ≥ -65dBm ?
NO
Resolder or change C115, L112
YES
Check component soldering status OK at F100
NO
Resolder or change F100
YES
Check F100 PIN 20, 21 ≥ -65dBm
NO
Resolder or change F100
YES
Check the voltage at {C148= VOUT_CHARGER ?} & {C158,C159, C160 = VOUT_CHARGER?} & {C147, C172 = 2.85V ?} & {C144, C170 = 2.65V ?} & {C146, C174 = 1.8V?} & {C173, C171, C145 = 1.2V?}
NO
Resolder or change U108
YES
Check the freq. at OSC100 PIN 1 : 26MHz ?
NO
Change or resolder OSC100
YES
WCDMA band5/GSM850 Receiver is O.K?
NO
Resolder or change UCP300
END

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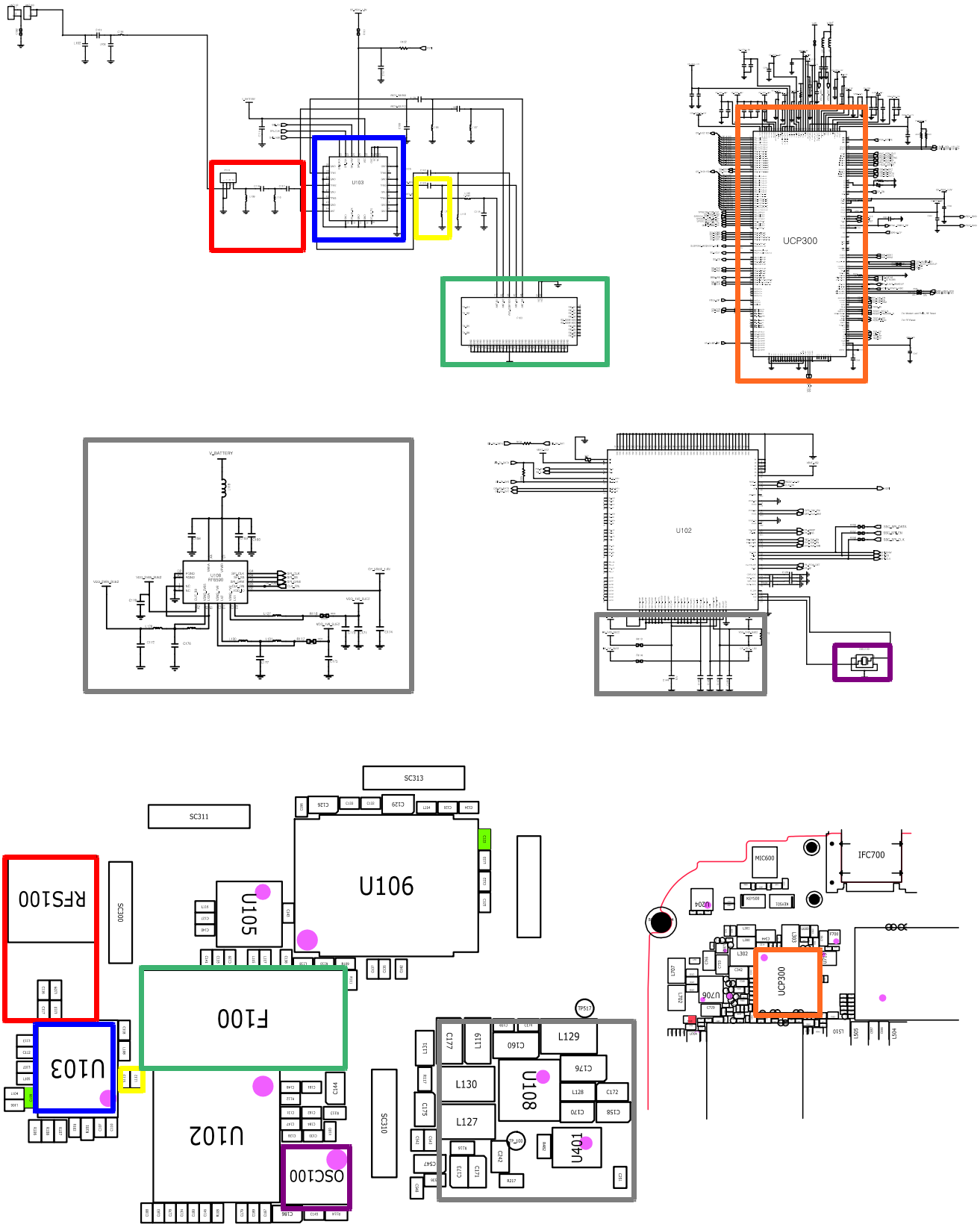

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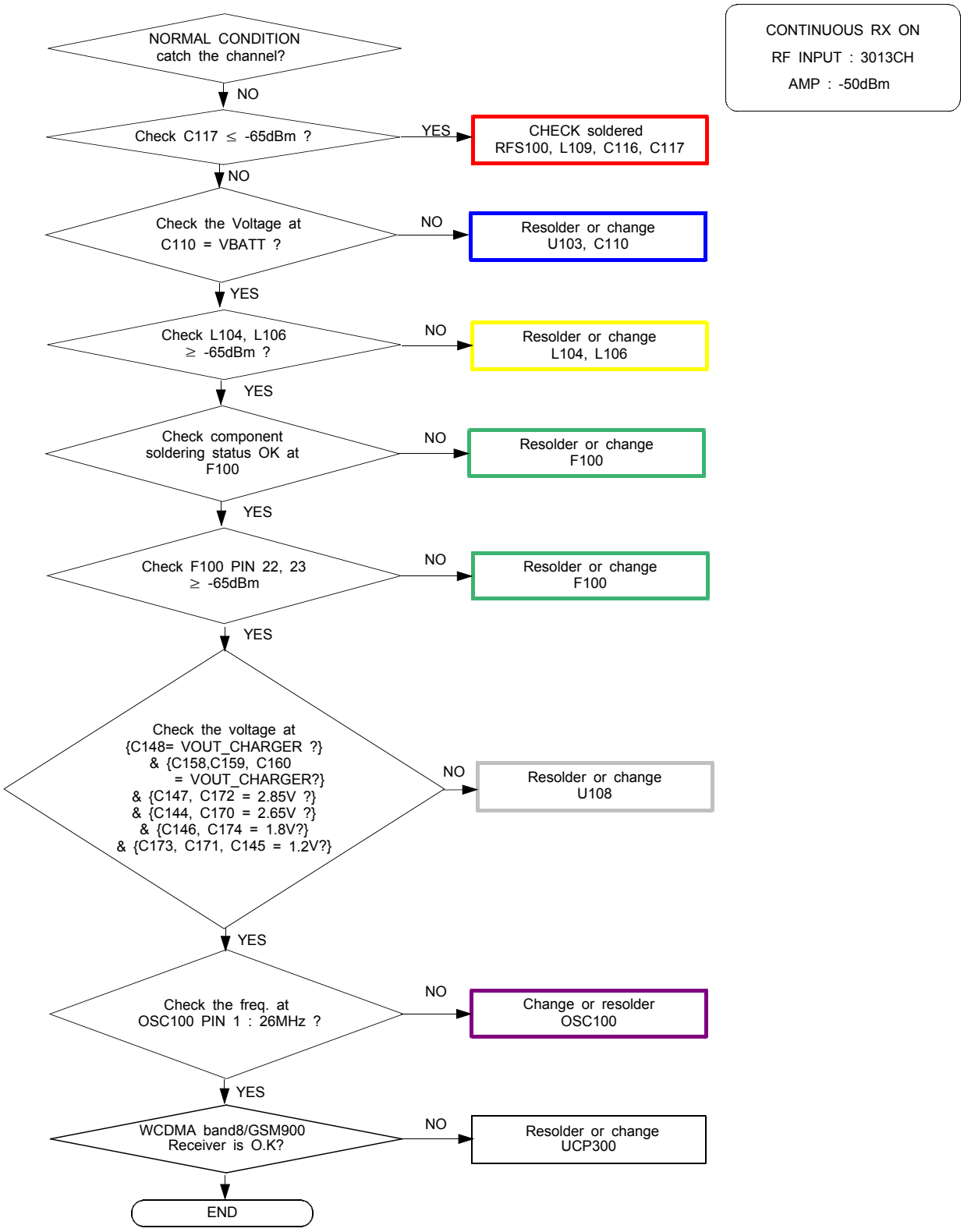
8-3-23. WCDMA Band8 / GSM900 RX


CONTINUOUS RX ON
RF INPUT : 3013CH
AMP : -50dBm
NORMAL CONDITION catch the channel?
NO
Check C117 ≤ -65dBm ?
YES
CHECK soldered RFS100, L109, C116, C117
NO
Check the Voltage at C110 = VBATT ?
NO
Resolder or change U103, C110
YES
Check L104, L106 ≥ -65dBm ?
NO
Resolder or change L104, L106
YES
Check component soldering status OK at F100
NO
Resolder or change F100
YES
Check F100 PIN 22, 23 ≥ -65dBm
NO
Resolder or change F100
YES
Check the voltage at {C148= VOUT_CHARGER ?} & {C158,C159, C160 = VOUT_CHARGER?} & {C147, C172 = 2.85V ?} & {C144, C170 = 2.65V ?} & {C146, C174 = 1.8V?} & {C173, C171, C145 = 1.2V?}
NO
Resolder or change U108
YES
Check the freq. at OSC100 PIN 1 : 26MHz ?
NO
Change or resolder OSC100
YES
WCDMA band8/GSM900 Receiver is O.K?
NO
Resolder or change UCP300
END

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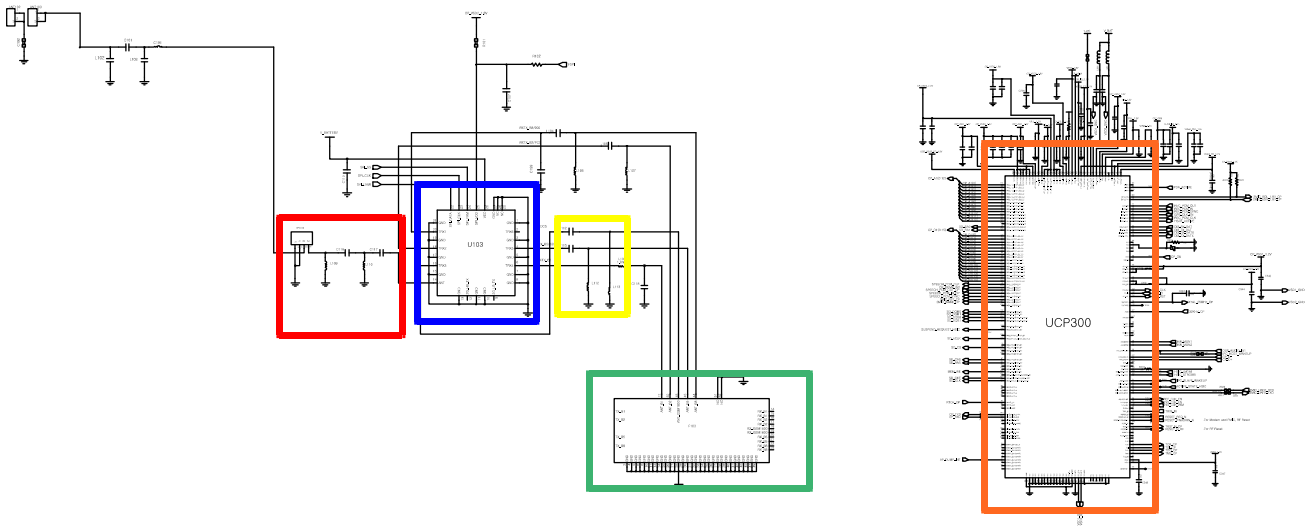

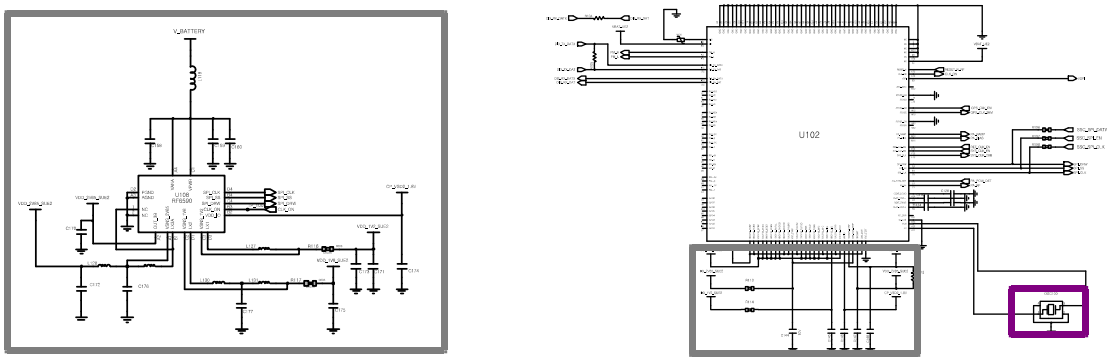

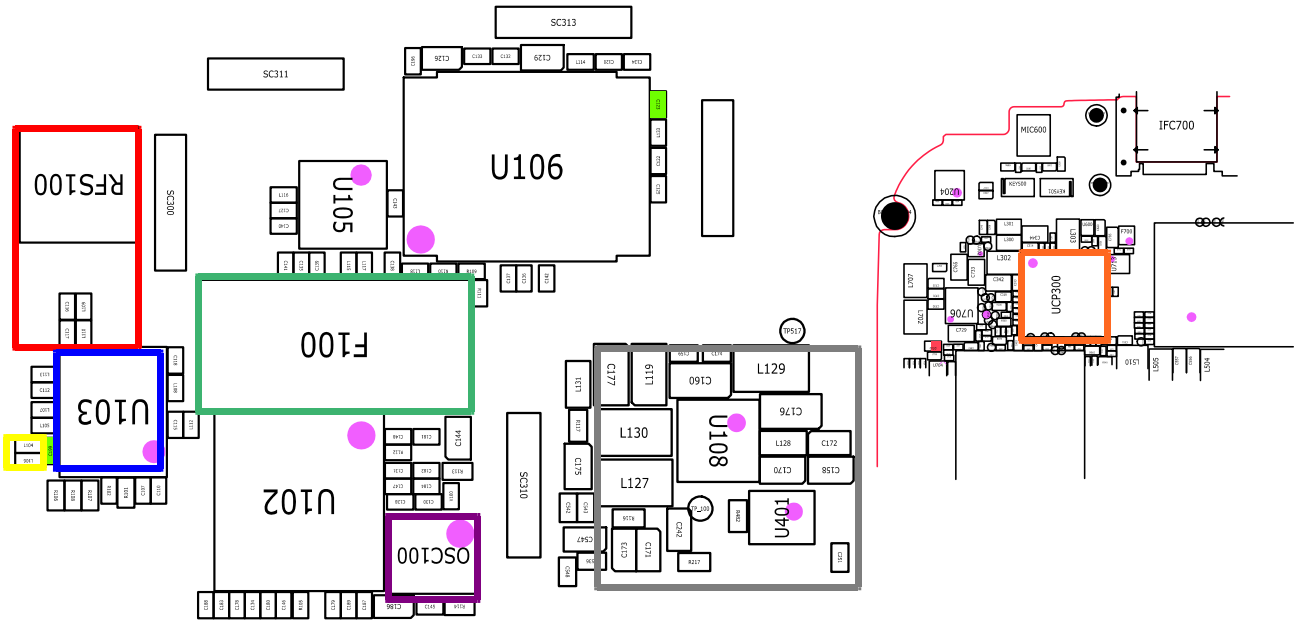

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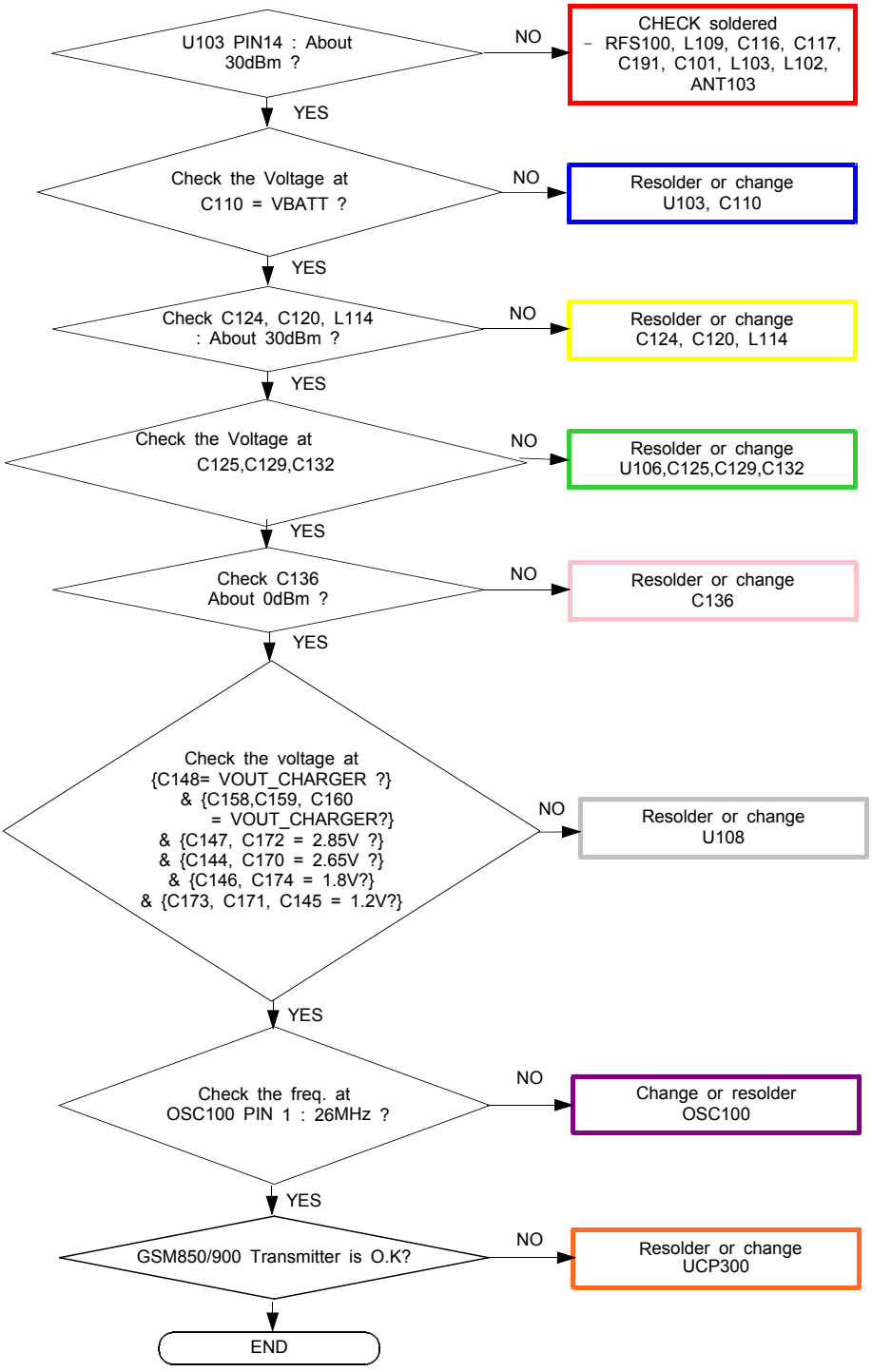
8-3-24. GSM850/GSM900 TX

CONTINUOUS TX ON CONDITION
TX POWER IDX1 APPLIED
GSM850 CH : 190
GSM900 CH : 62
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB


U103 PIN14 : About 30dBm ?
NO
CHECK soldered
- RFS100, L109, C116, C117, C191, C101, L103, L102, ANT103
YES
Check the Voltage at C110 = VBATT ?
NO
Resolder or change U103, C110
YES
Check C124, C120, L114 : About 30dBm ?
NO
Resolder or change C124, C120, L114
YES
Check the Voltage at C125,C129,C132
NO
Resolder or change U106,C125,C129,C132
YES
Check C136 About 0dBm ?
NO
Resolder or change C136
YES
Check the voltage at {C148= VOUT_CHARGER ?} & {C158,C159, C160 = VOUT_CHARGER?} & {C147, C172 = 2.85V ?} & {C144, C170 = 2.65V ?} & {C146, C174 = 1.8V?} & {C173, C171, C145 = 1.2V?}
NO
Resolder or change U108
YES
Check the freq. at OSC100 PIN 1 : 26MHz ?
NO
Change or resolder OSC100
YES
GSM850/900 Transmitter is O.K?
NO
Resolder or change UCP300
END

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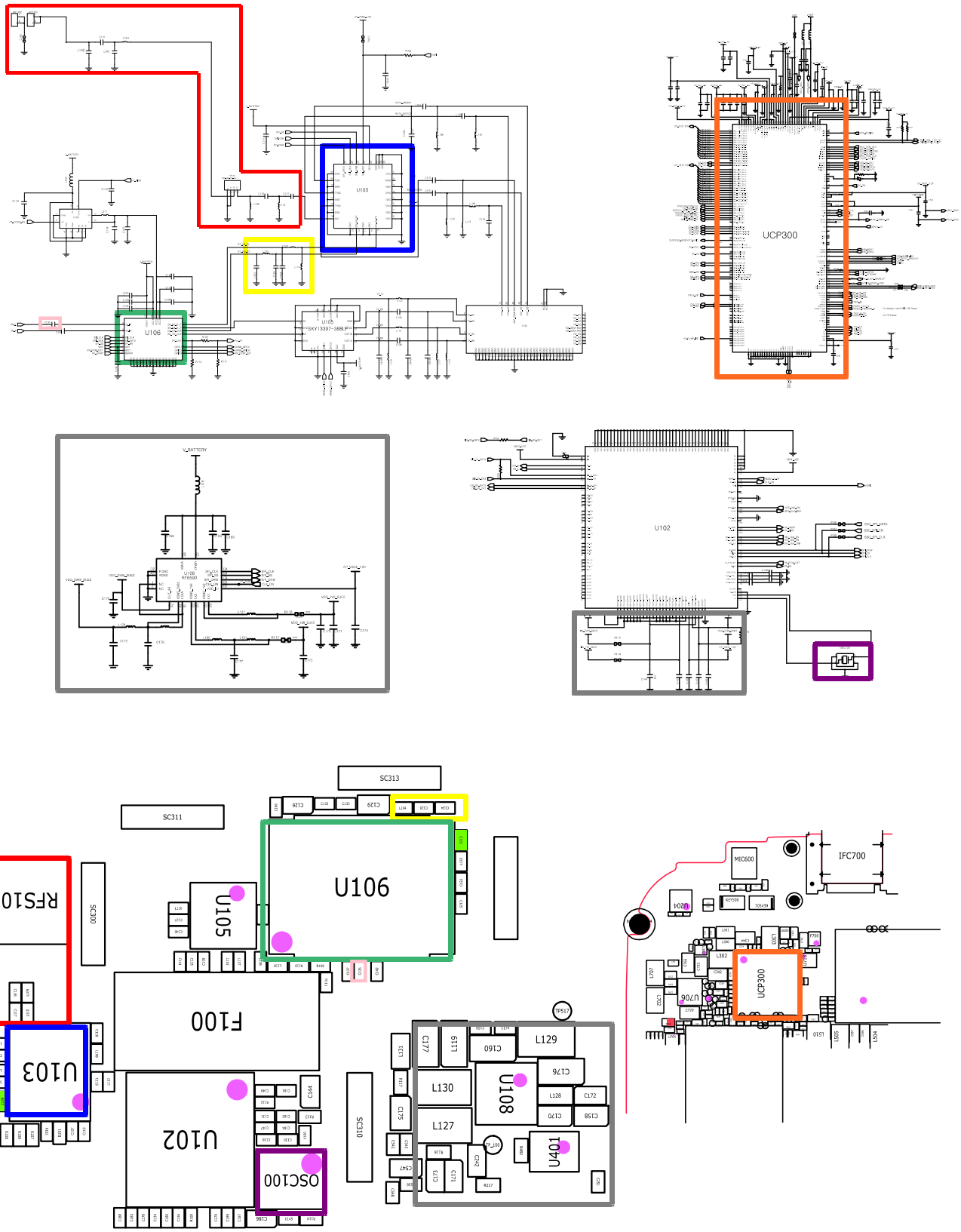

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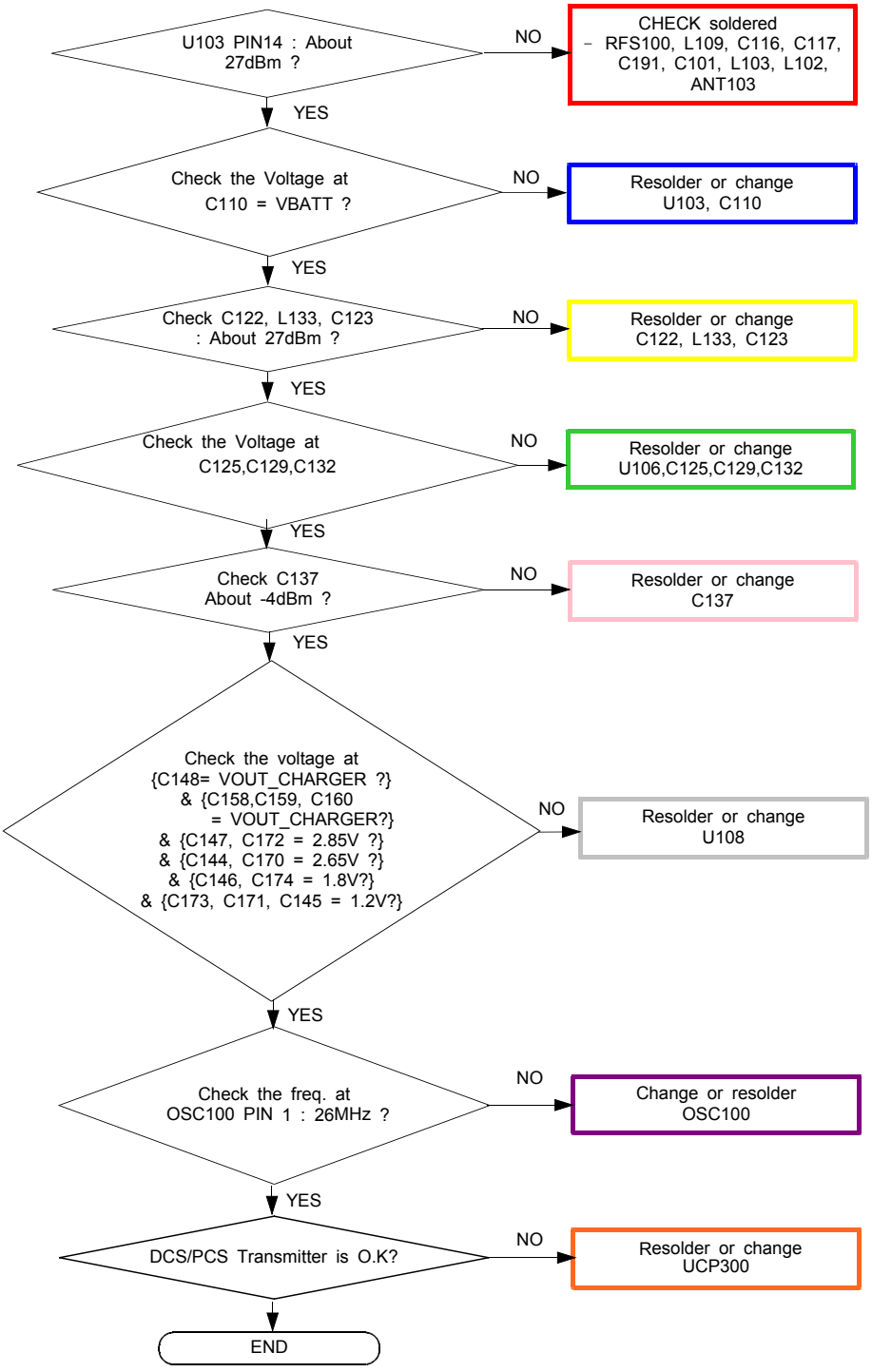
8-3-25. DCS/PCS TX

CONTINUOUS TX ON CONDITION
TX POWER IDX1 APPLIED
DCS CH : 685
PCS CH : 661
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB


U103 PIN14 : About 27dBm ?
NO
CHECK soldered
- RFS100, L109, C116, C117, C191, C101, L103, L102, ANT103
YES
Check the Voltage at C110 = VBATT ?
NO
Resolder or change U103, C110
YES
Check C122, L133, C123 : About 27dBm ?
NO
Resolder or change C122, L133, C123
YES
Check the Voltage at C125,C129,C132
NO
Resolder or change U106,C125,C129,C132
YES
Check C137 About -4dBm ?
NO
Resolder or change C137
YES
Check the voltage at {C148= VOUT_CHARGER ?} & {C158,C159, C160 = VOUT_CHARGER?} & {C147, C172 = 2.85V ?} & {C144, C170 = 2.65V ?} & {C146, C174 = 1.8V?} & {C173, C171, C145 = 1.2V?}
NO
Resolder or change U108
YES
Check the freq. at OSC100 PIN 1 : 26MHz ?
NO
Change or resolder OSC100
YES
DCS/PCS Transmitter is O.K?
NO
Resolder or change UCP300
END

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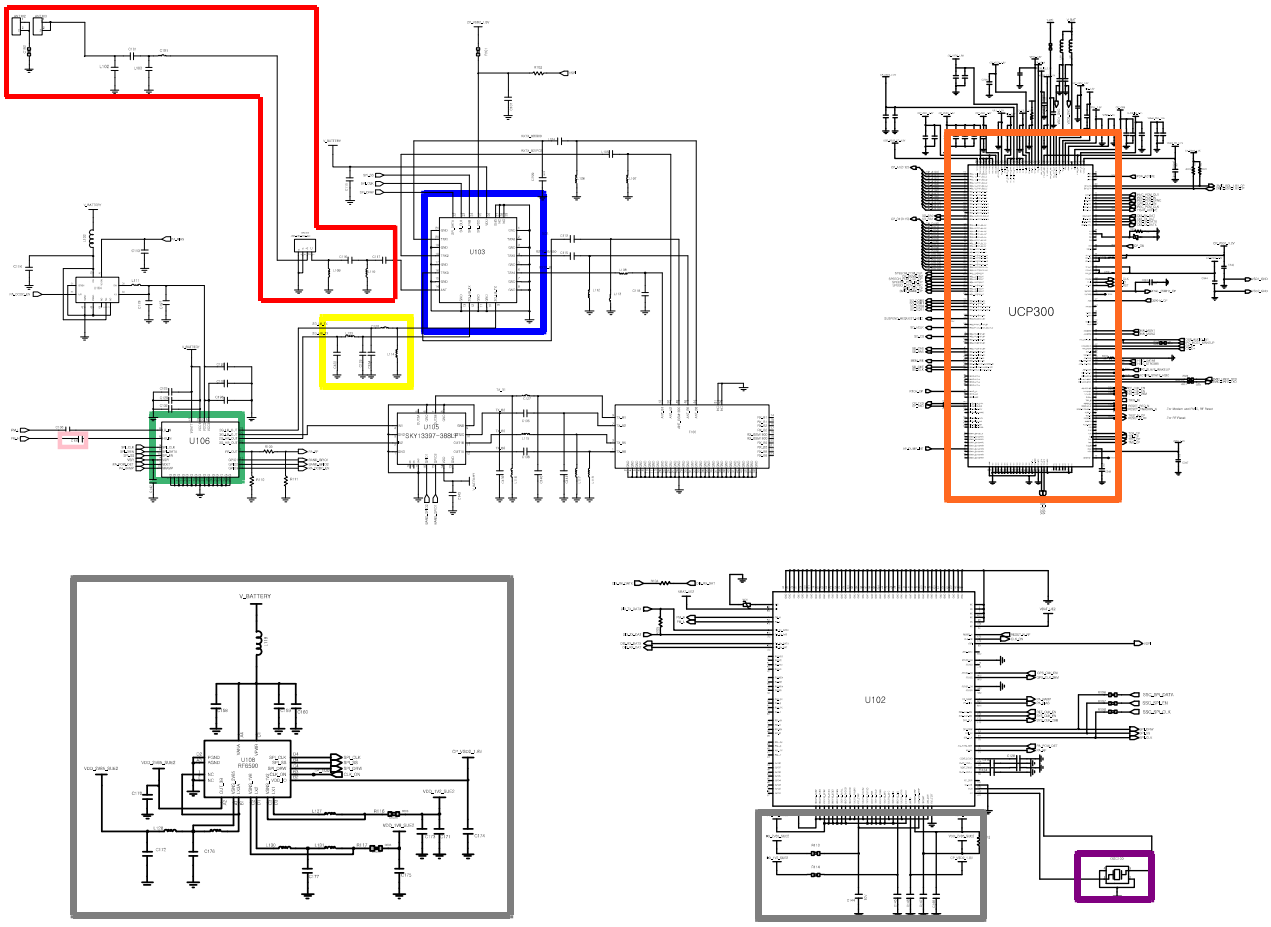

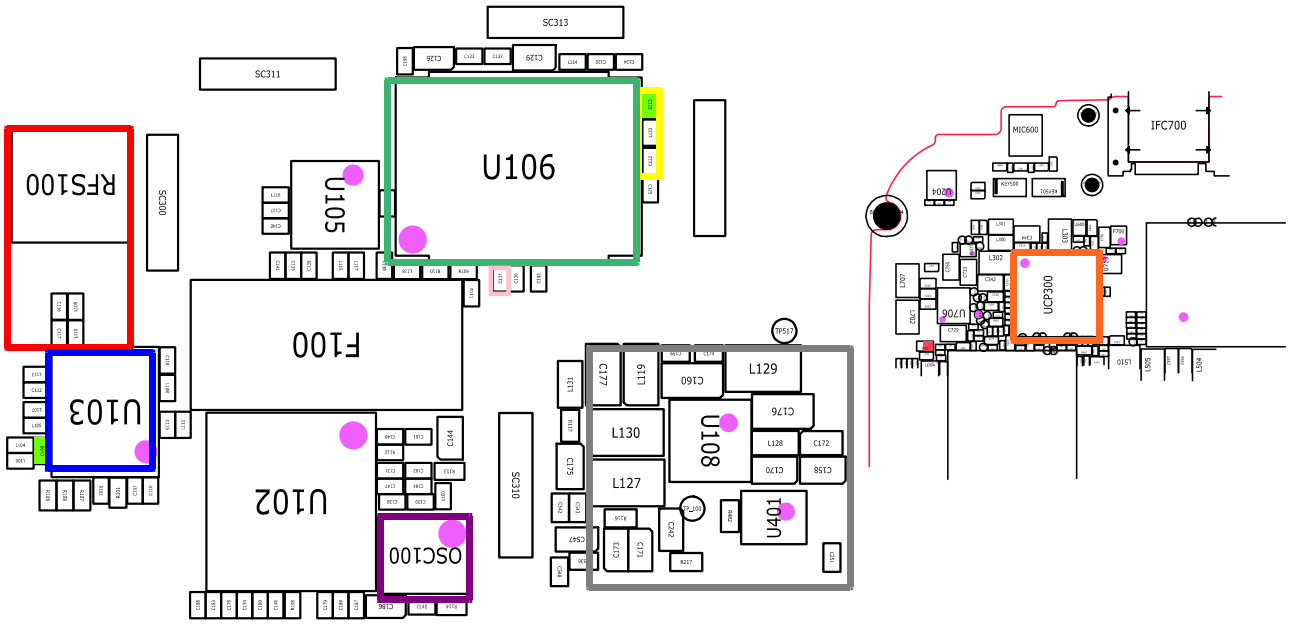

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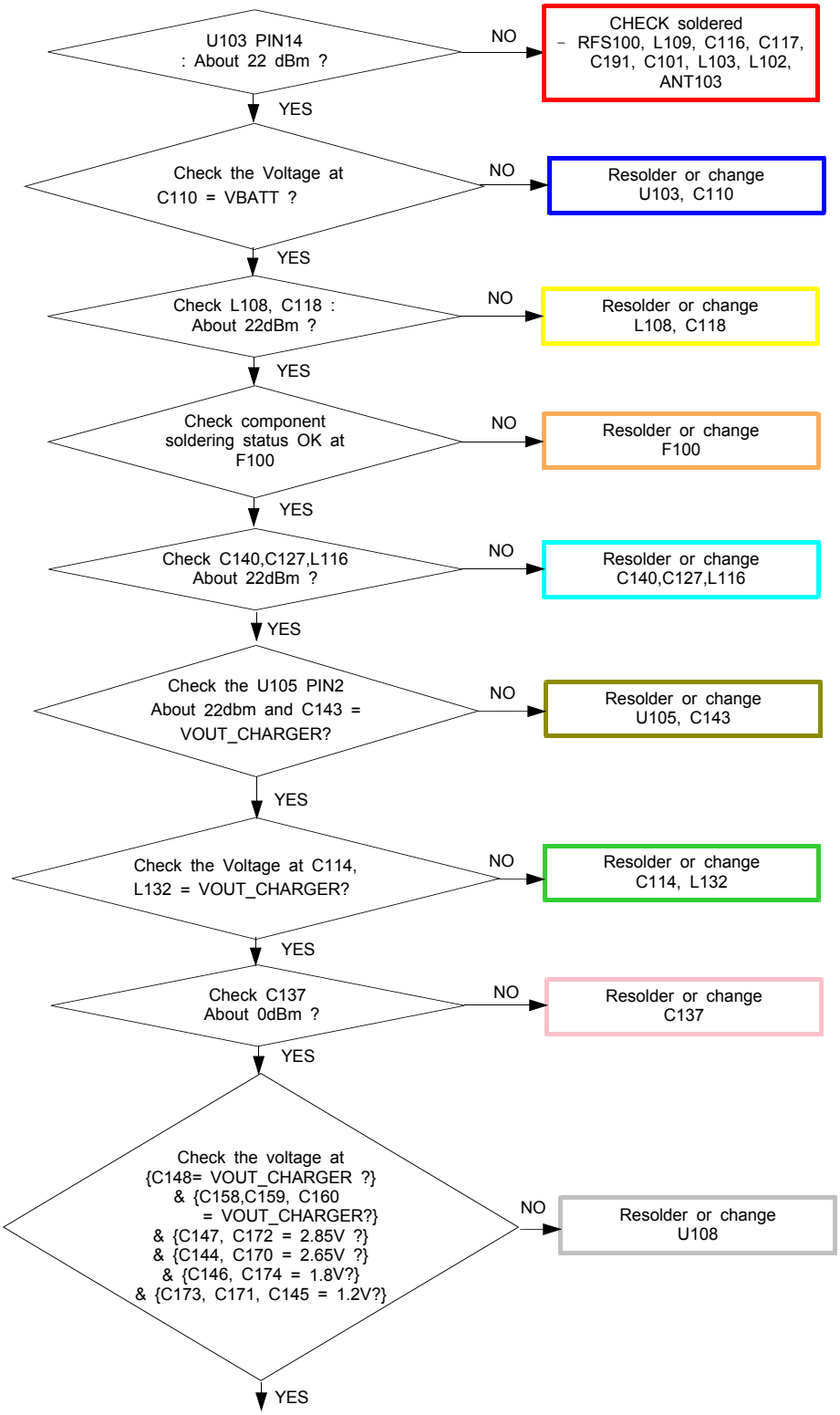
8-3-26. WCDMA BAND1 TX

CONTINUOUS TX ON CONDITION
TX POWER DAC:14500 CODE APPLIED
WCDMA Band1 CH : 20000
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB


U103 PIN14 : About 22 dBm ?
NO
CHECK soldered
- RFS100, L109, C116, C117, C191, C101, L103, L102, ANT103
YES
Check the Voltage at C110 = VBATT ?
NO
Resolder or change U103, C110
YES
Check L108, C118 : About 22dBm ?
NO
Resolder or change L108, C118
YES
Check component soldering status OK at F100
NO
Resolder or change F100
YES
Check C140,C127,L116 About 22dBm ?
NO
Resolder or change C140,C127,L116
YES
Check the U105 PIN2 About 22dbm and C143 = VOUT_CHARGER?
NO
Resolder or change U105, C143
YES
Check the Voltage at C114, L132 = VOUT_CHARGER?
NO
Resolder or change C114, L132
YES
Check C137 About 0dBm ?
NO
Resolder or change C137
YES
Check the voltage at {C148= VOUT_CHARGER ?} & {C158,C159, C160 = VOUT_CHARGER?} & {C147, C172 = 2.85V ?} & {C144, C170 = 2.65V ?} & {C146, C174 = 1.8V?} & {C173, C171, C145 = 1.2V?}
NO
Resolder or change U108
YES

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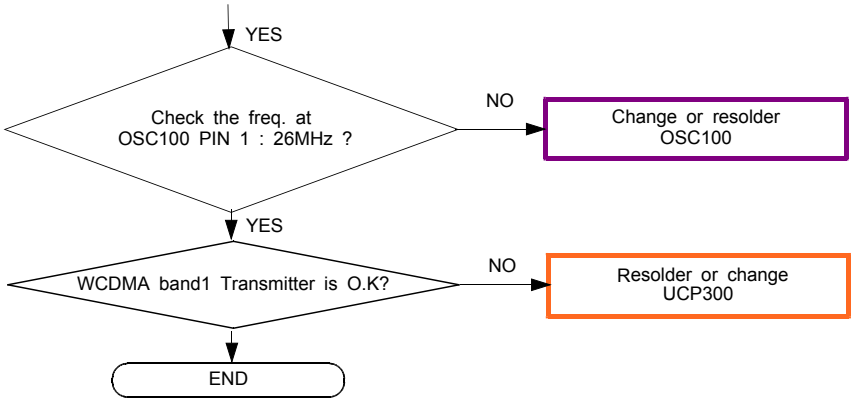

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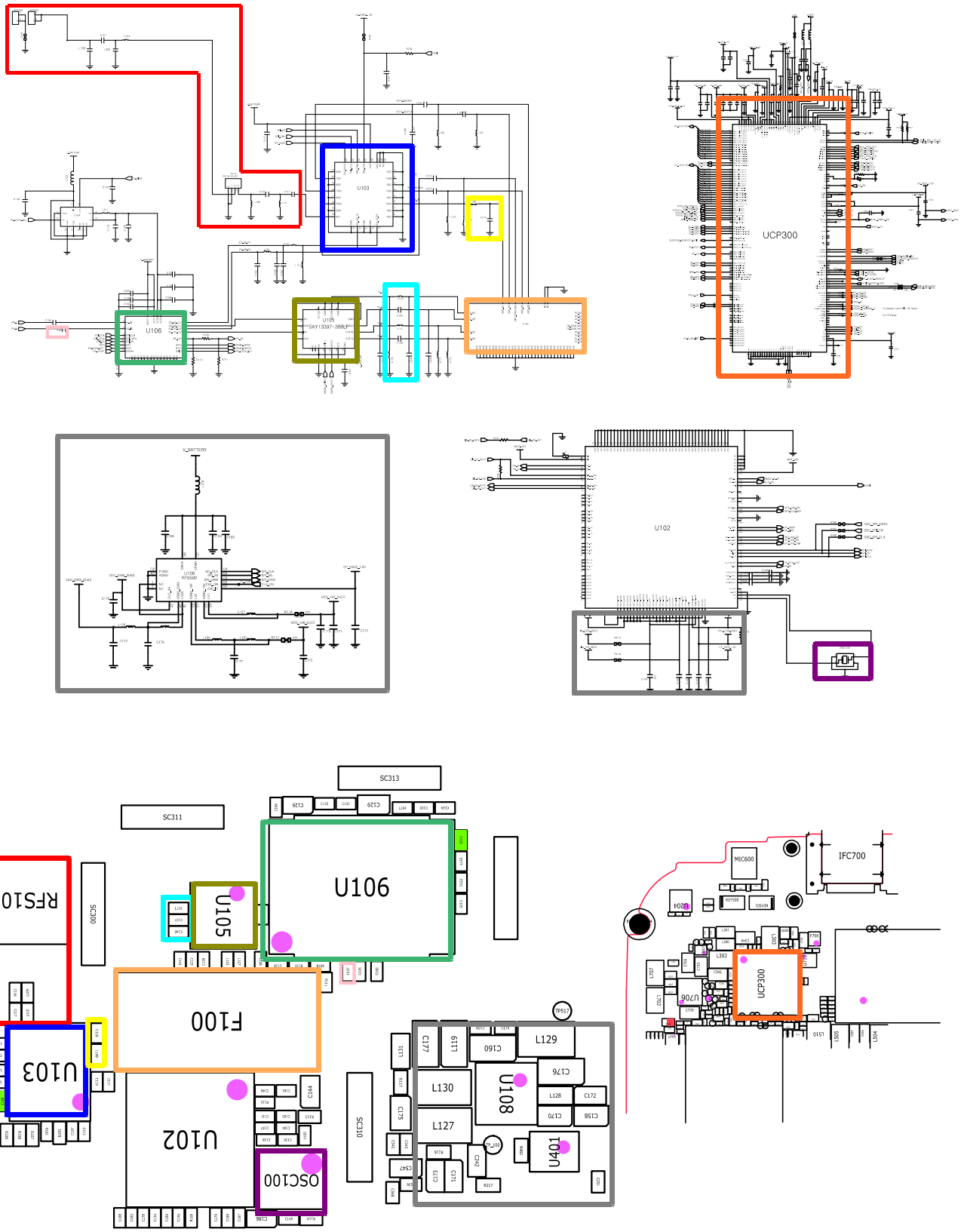

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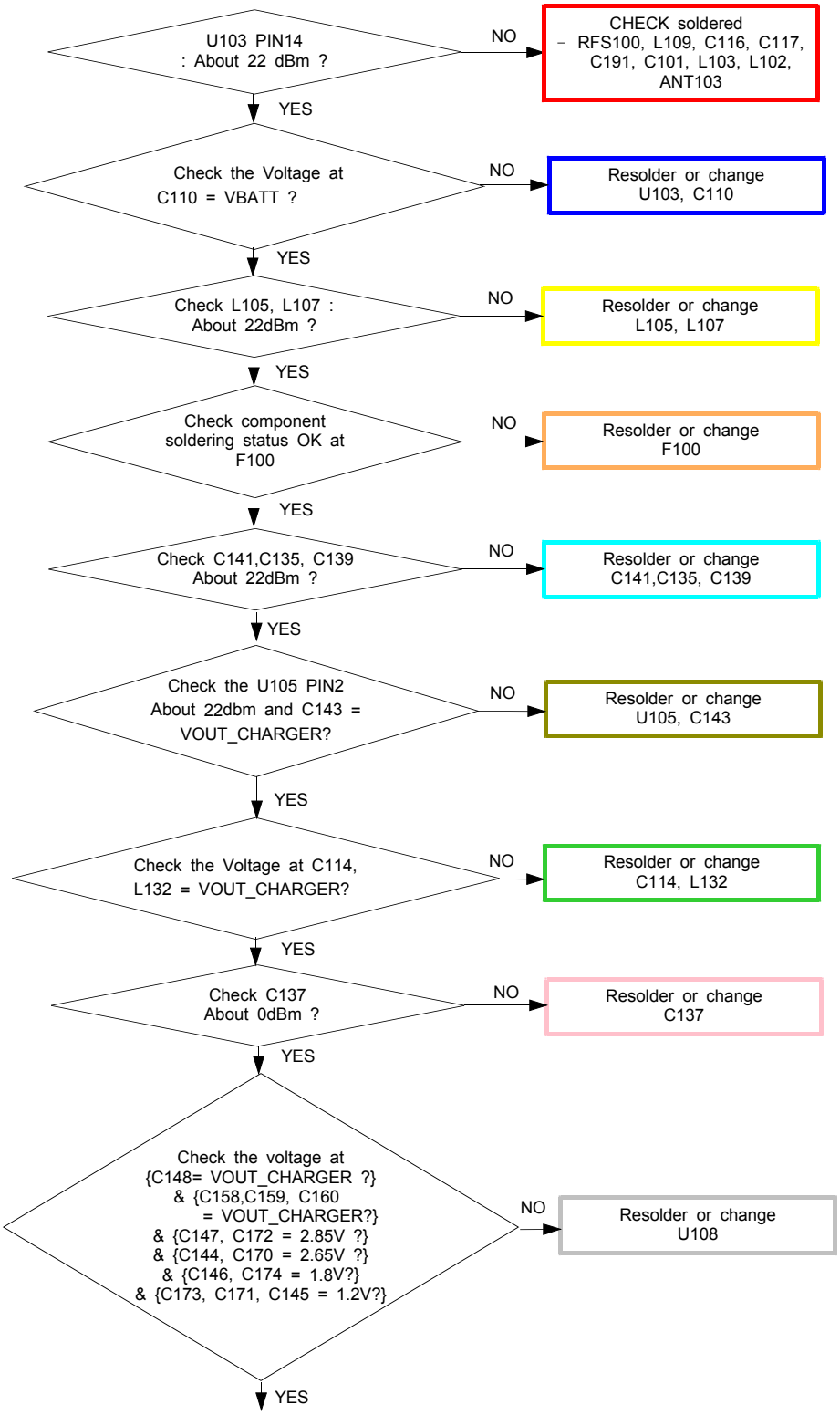
8-3-27. WCDMA BAND2 TX

CONTINUOUS TX ON CONDITION
TX POWER DAC:23000 CODE APPLIED
WCDMA Band2 CH : 9880
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB


U103 PIN14 : About 22 dBm ?
NO
CHECK soldered
- RFS100, L109, C116, C117, C191, C101, L103, L102, ANT103
YES
Check the Voltage at C110 = VBATT ?
NO
Resolder or change U103, C110
YES
Check L105, L107 : About 22dBm ?
NO
Resolder or change L105, L107
YES
Check component soldering status OK at F100
NO
Resolder or change F100
YES
Check C141,C135, C139 About 22dBm ?
NO
Resolder or change C141,C135, C139
YES
Check the U105 PIN2 About 22dbm and C143 = VOUT_CHARGER?
NO
Resolder or change U105, C143
YES
Check the Voltage at C114, L132 = VOUT_CHARGER?
NO
Resolder or change C114, L132
YES
Check C137 About 0dBm ?
NO
Resolder or change C137
YES
Check the voltage at {C148= VOUT_CHARGER ?} & {C158,C159, C160 = VOUT_CHARGER?} & {C147, C172 = 2.85V ?} & {C144, C170 = 2.65V ?} & {C146, C174 = 1.8V?} & {C173, C171, C145 = 1.2V?}
NO
Resolder or change U108
YES

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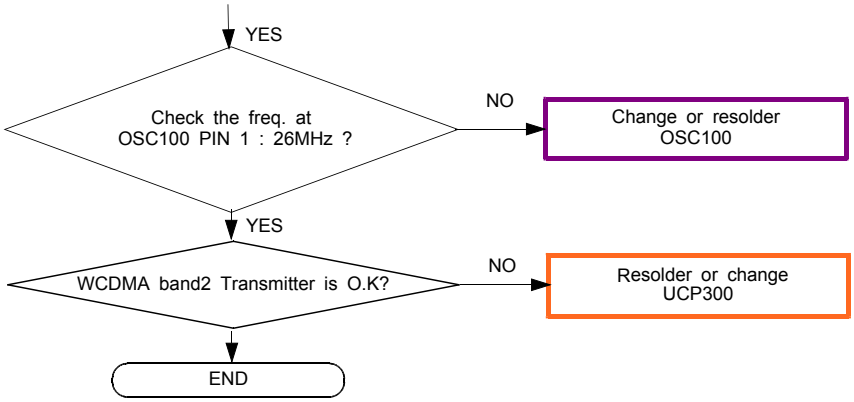

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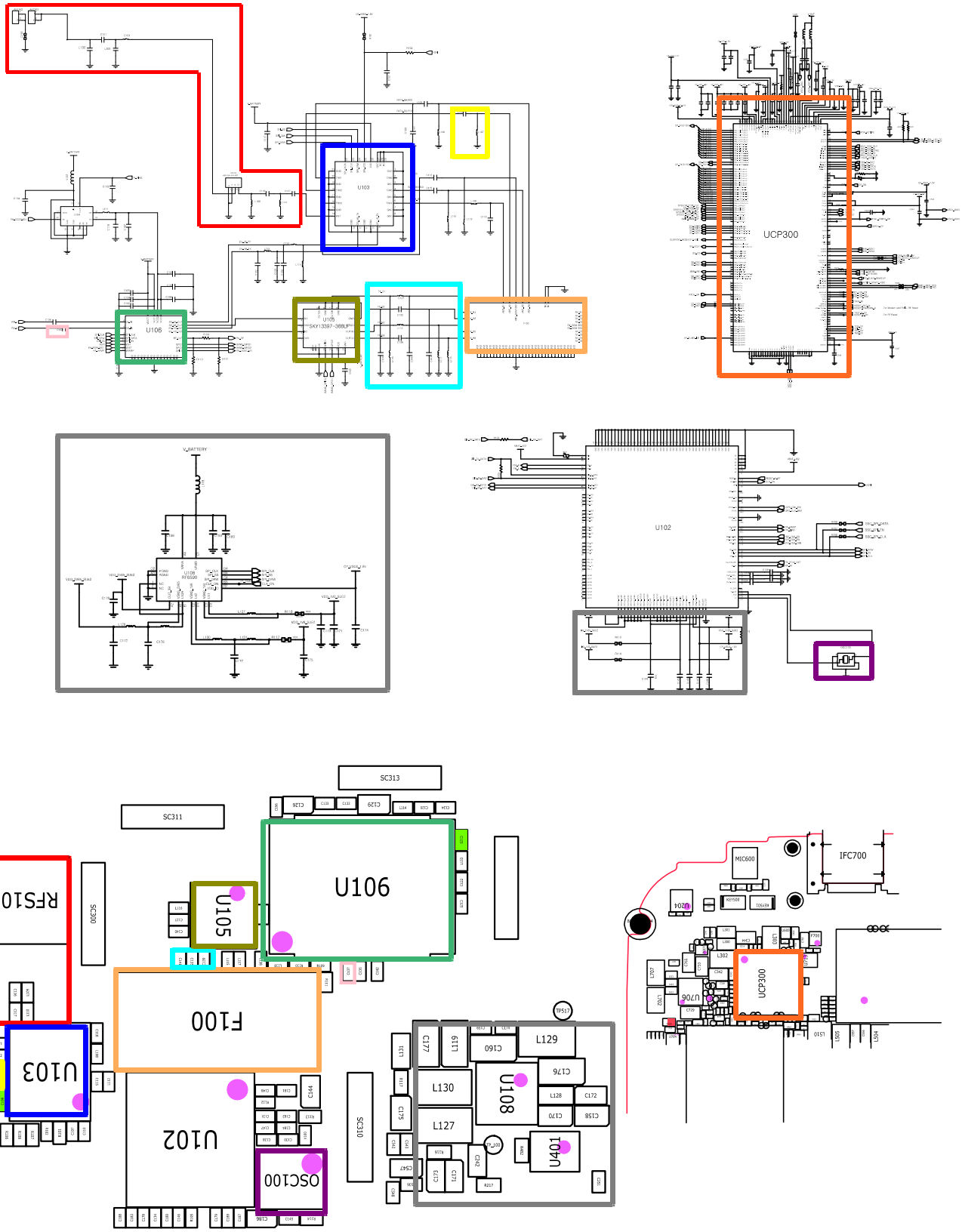

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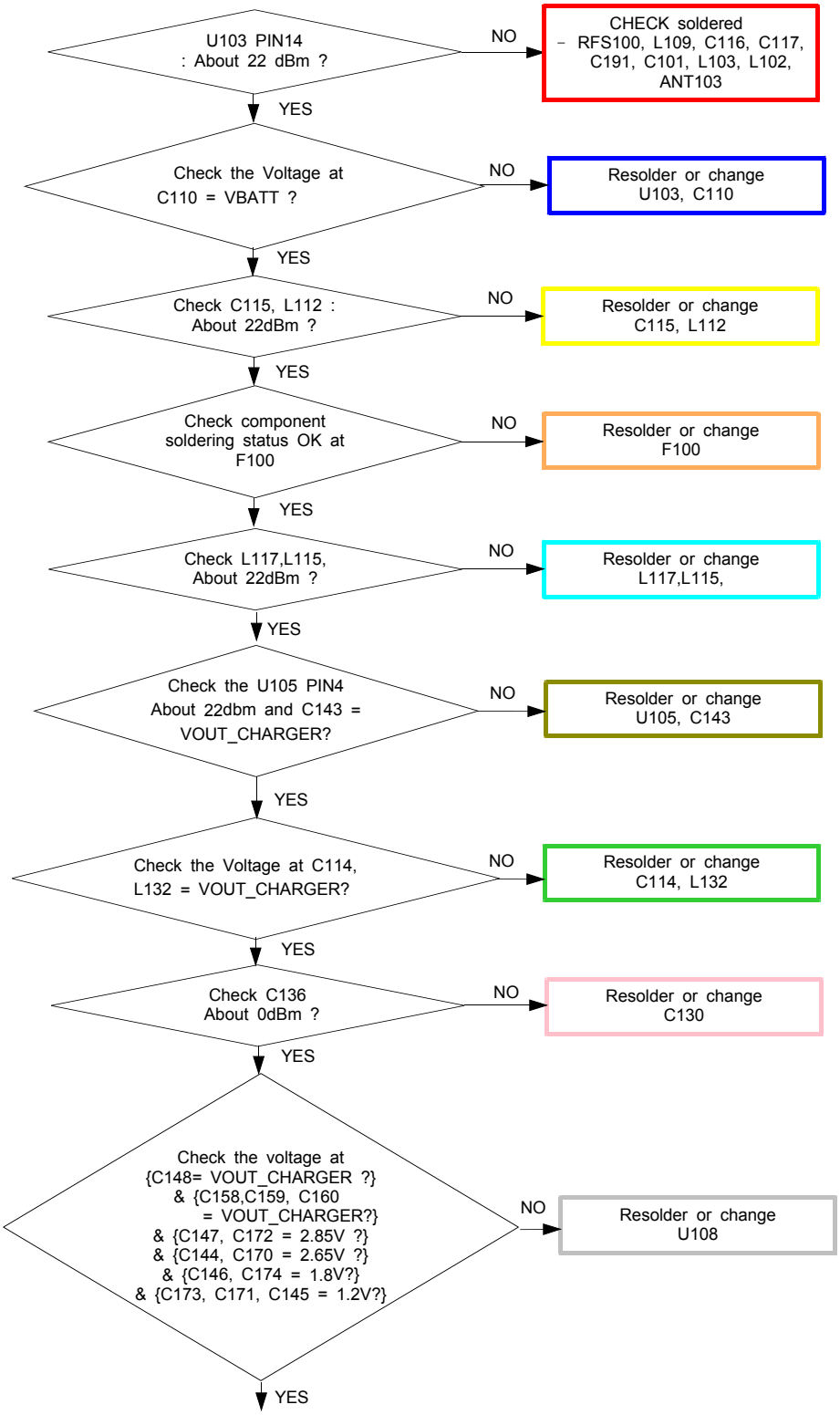
8-3-28. WCDMA BAND5 TX

CONTINUOUS TX ON CONDITION
TX POWER DAC: 23000 CODE APPLIED
WCDMA Band5 CH : 4408
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB


U103 PIN14 : About 22 dBm ?
NO
CHECK soldered
- RFS100, L109, C116, C117, C191, C101, L103, L102, ANT103
YES
Check the Voltage at C110 = VBATT ?
NO
Resolder or change U103, C110
YES
Check C115, L112 : About 22dBm ?
NO
Resolder or change C115, L112
YES
Check component soldering status OK at F100
NO
Resolder or change F100
YES
Check L117,L115, About 22dBm ?
NO
Resolder or change L117,L115,
YES
Check the U105 PIN4 About 22dbm and C143 = VOUT_CHARGER?
NO
Resolder or change U105, C143
YES
Check the Voltage at C114, L132 = VOUT_CHARGER?
NO
Resolder or change C114, L132
YES
Check C136 About 0dBm ?
NO
Resolder or change C130
YES
Check the voltage at {C148= VOUT_CHARGER ?} & {C158,C159, C160 = VOUT_CHARGER?} & {C147, C172 = 2.85V ?} & {C144, C170 = 2.65V ?} & {C146, C174 = 1.8V?} & {C173, C171, C145 = 1.2V?}
NO
Resolder or change U108
YES

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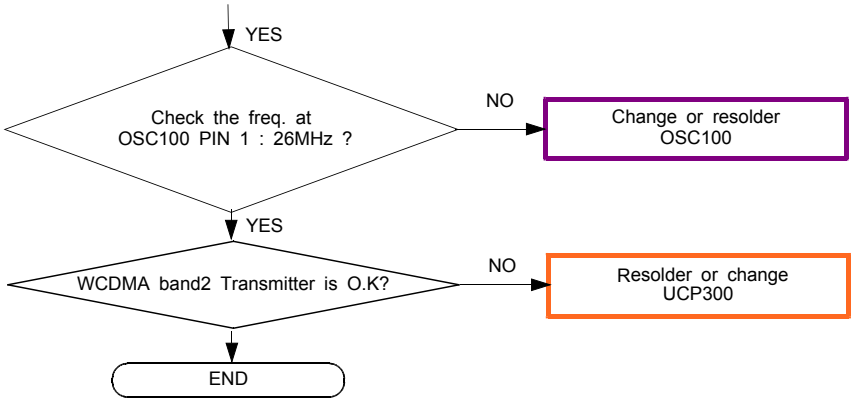

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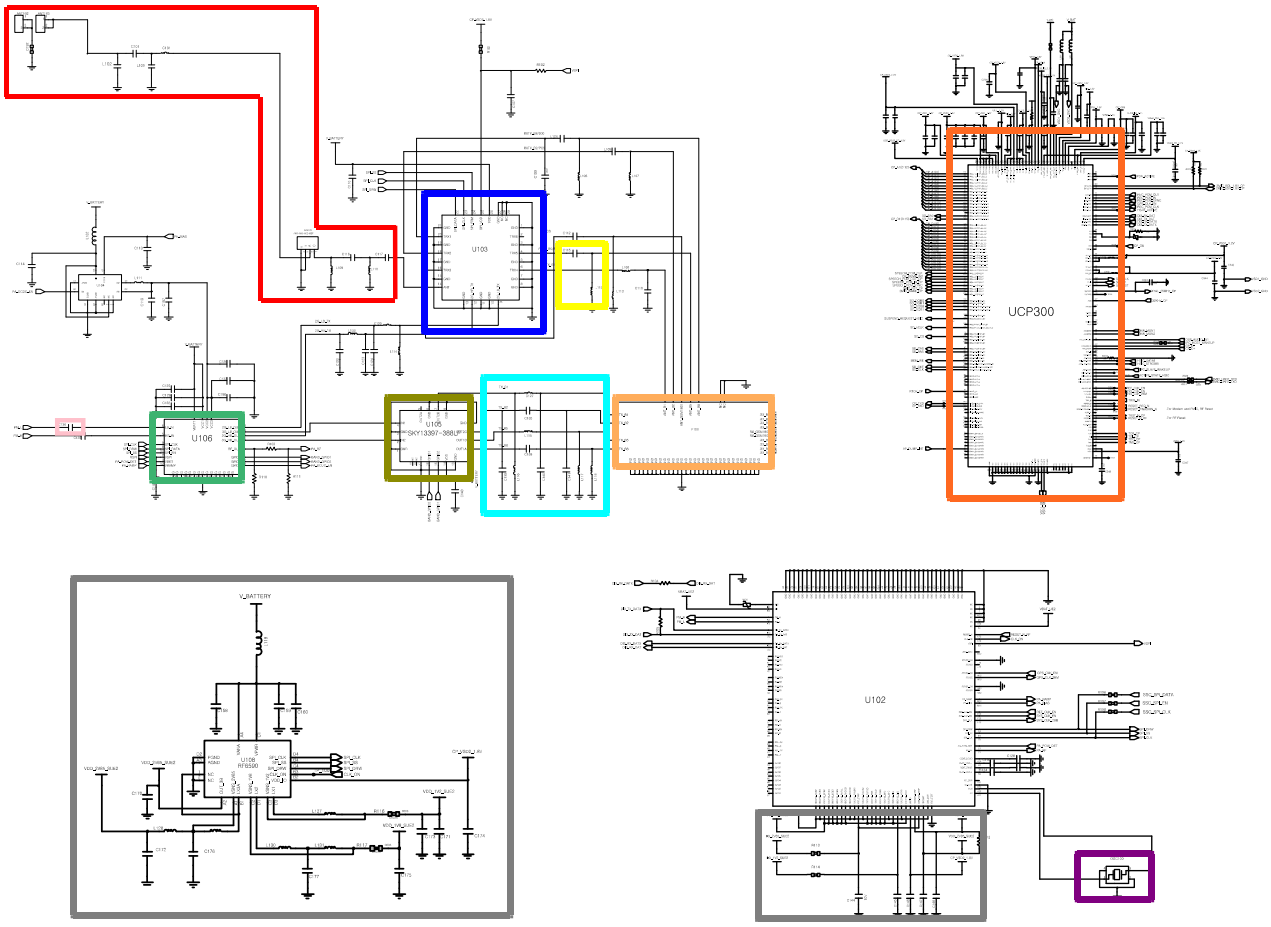

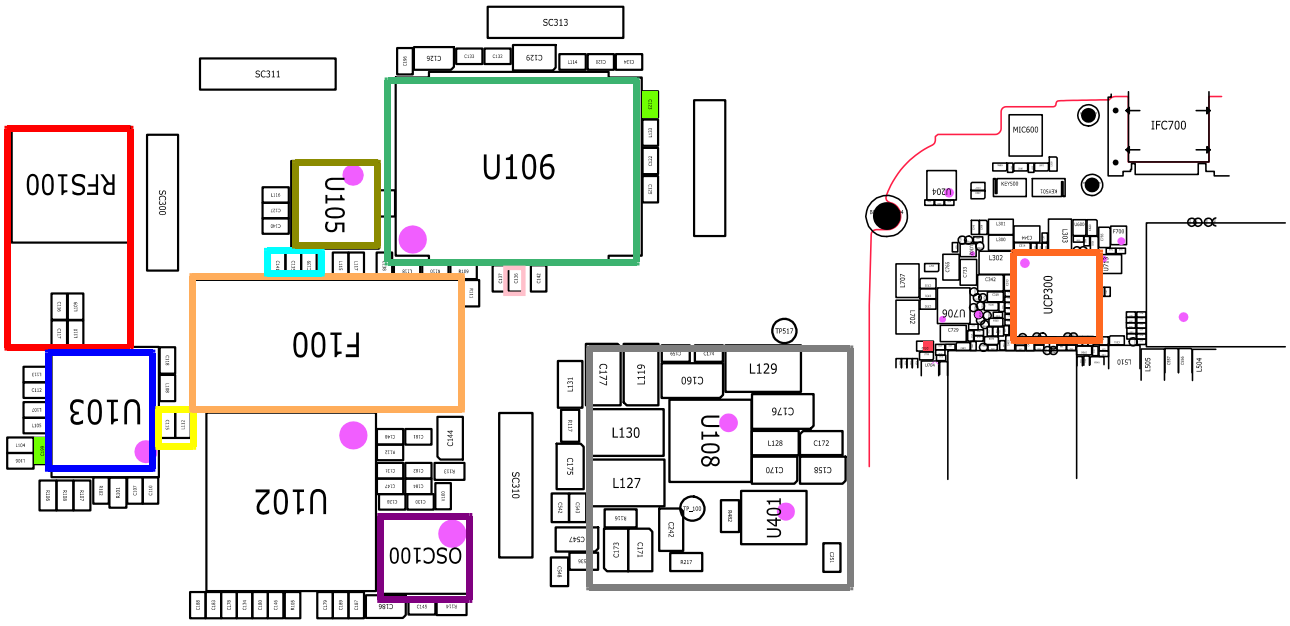

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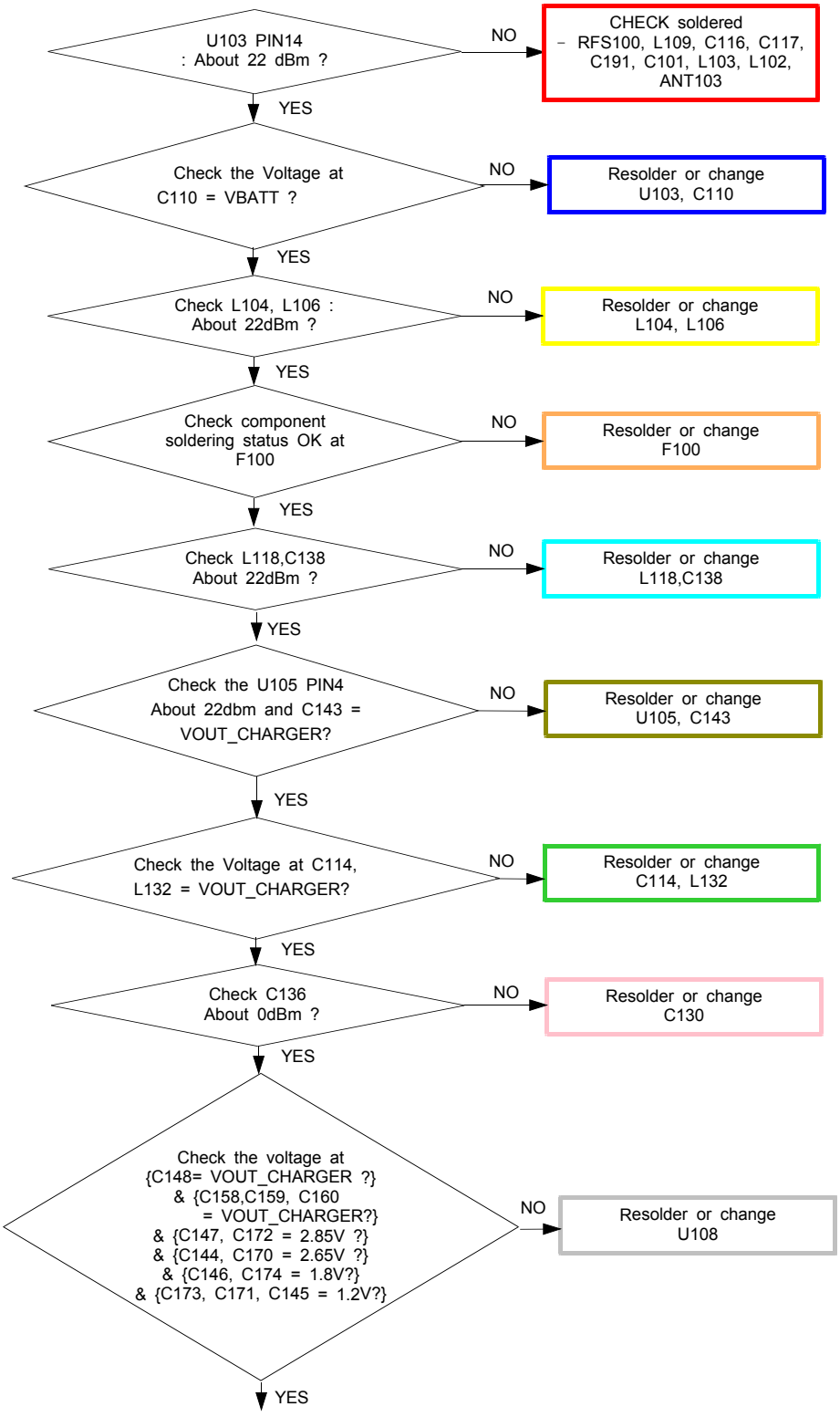
8-3-29. WCDMA BAND8 TX

CONTINUOUS TX ON CONDITION
TX POWER DAC: 23000 CODE APPLIED
WCDMA Band8 CH : 3013
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB


U103 PIN14
: About 22 dBm ?
NO
CHECK soldered
- RFS100, L109, C116, C117, C191, C101, L103, L102, ANT103
YES
Check the Voltage at C110 = VBATT ?
NO
Resolder or change U103, C110
YES
Check L104, L106 : About 22dBm ?
NO
Resolder or change L104, L106
YES
Check component soldering status OK at F100
NO
Resolder or change F100
YES
Check L118,C138 About 22dBm ?
NO
Resolder or change L118,C138
YES
Check the U105 PIN4 About 22dbm and C143 = VOUT_CHARGER?
NO
Resolder or change U105, C143
YES
Check the Voltage at C114, L132 = VOUT_CHARGER?
NO
Resolder or change C114, L132
YES
Check C136 About 0dBm ?
NO
Resolder or change C130
YES
Check the voltage at {C148= VOUT_CHARGER ?} & {C158,C159, C160 = VOUT_CHARGER?} & {C147, C172 = 2.85V ?} & {C144, C170 = 2.65V ?} & {C146, C174 = 1.8V?} & {C173, C171, C145 = 1.2V?}
NO
Resolder or change U108
YES

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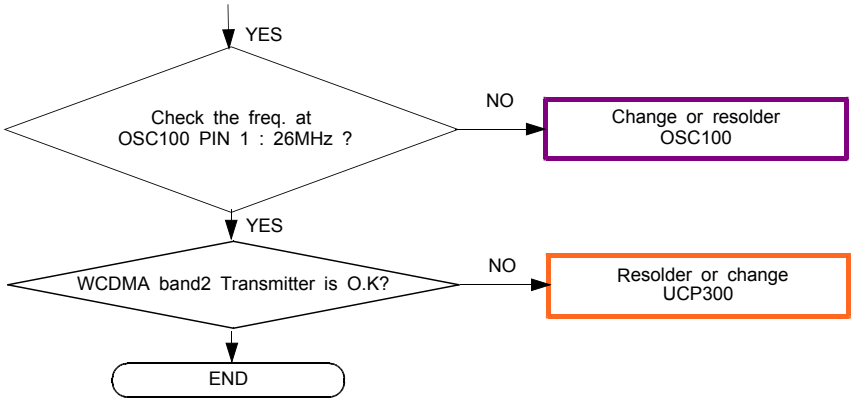

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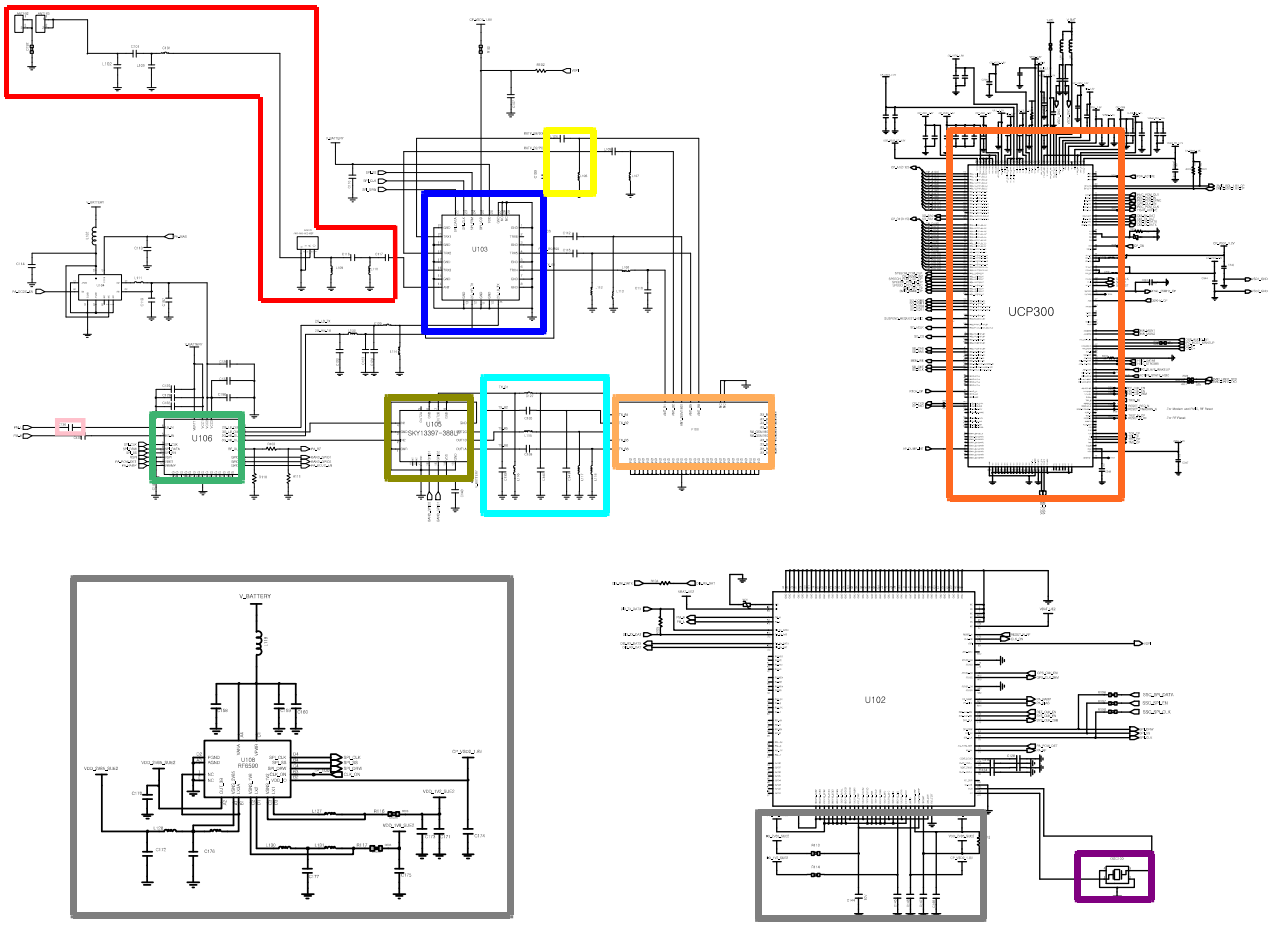

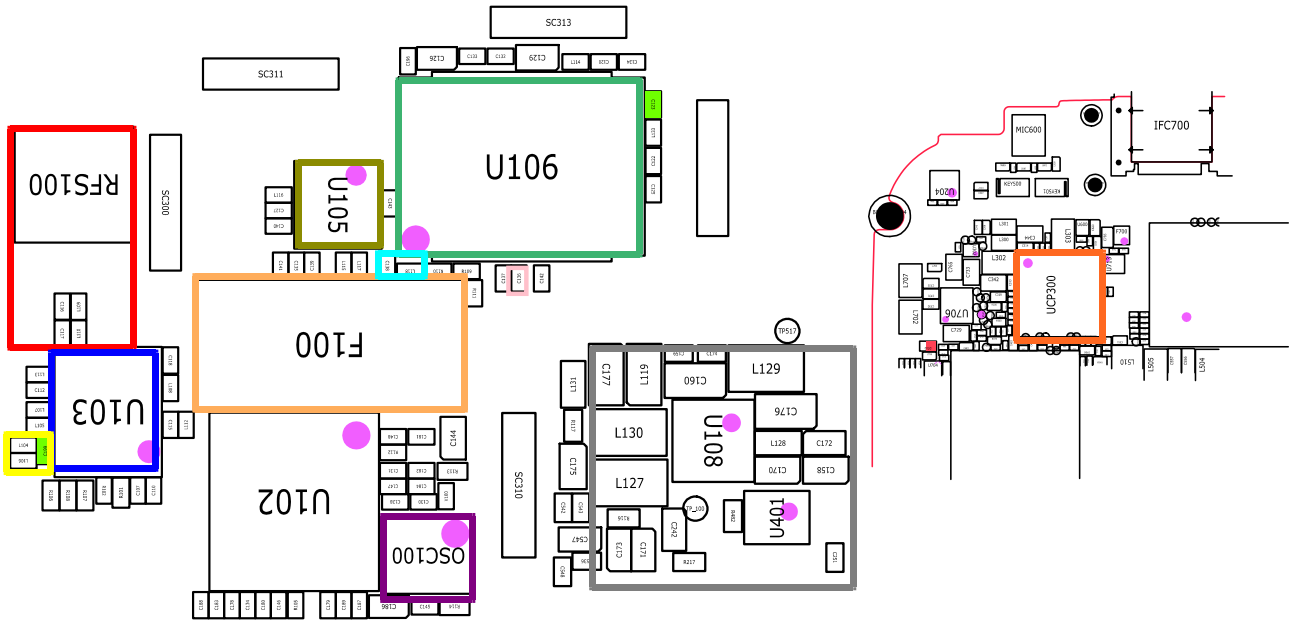

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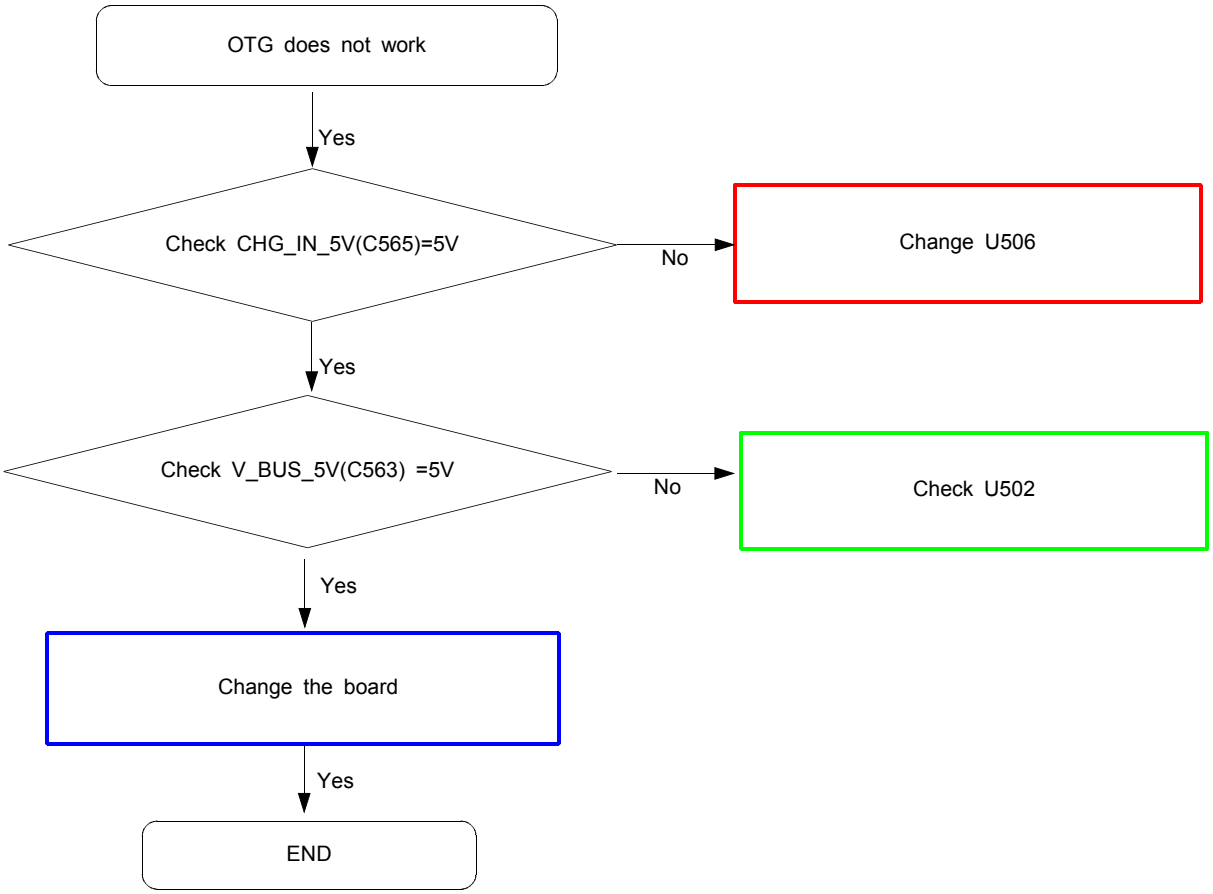
8-3-30. OTG



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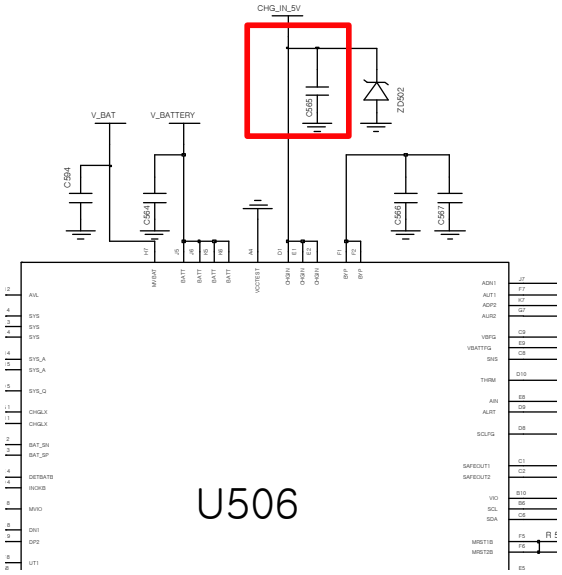

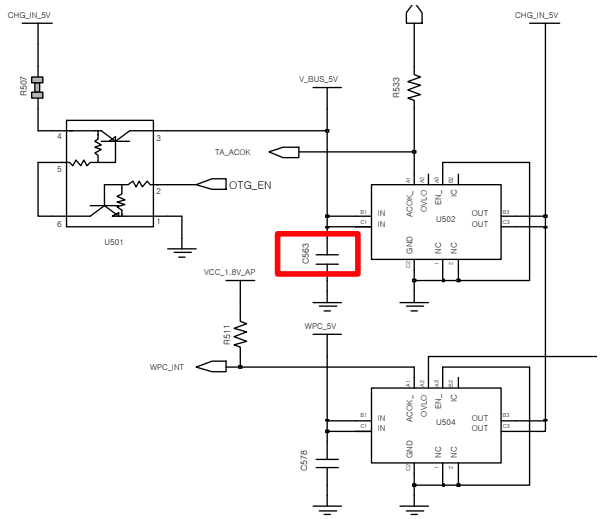

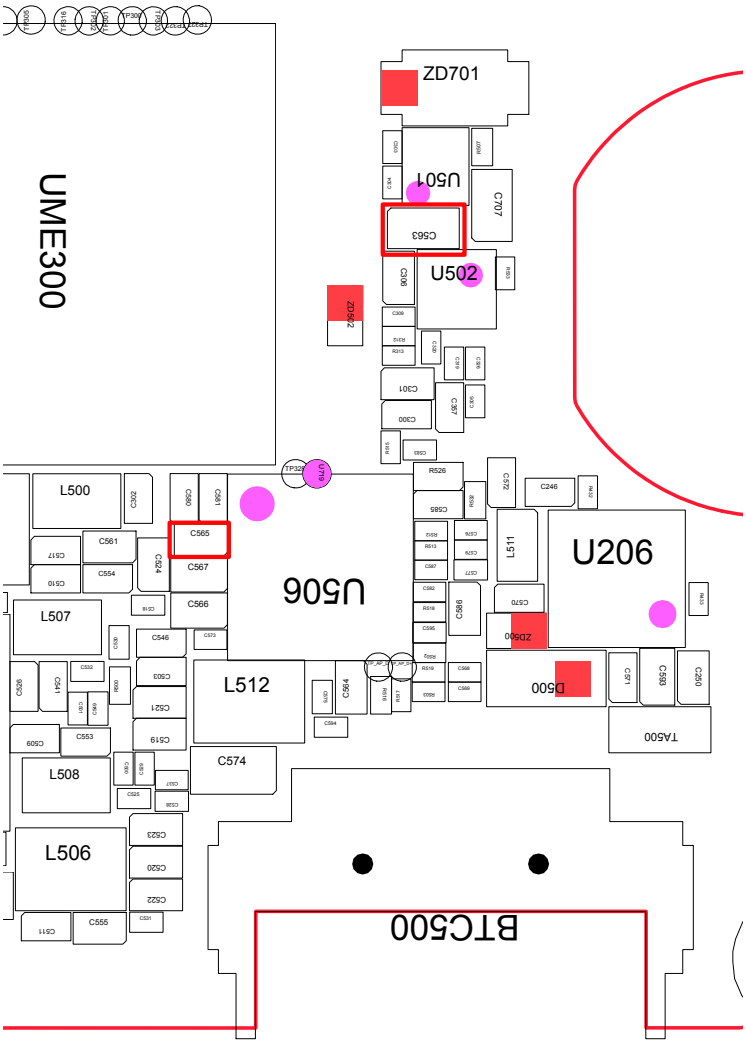

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